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English for Medical Purposes:

Activating Teaching Methods and their Influence on Vocabulary Acquisition

Odborný anglický jazyk pro lékařské účely: Aktivizační metody a jejich vliv na osvojování slovní zásoby

Disertační práce

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Poděkování

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Prohlašuji, že jsem disertační práci napsala samostatně s využitím pouze uvedených a řádně citovaných pramenů literatury a že práce nebyla využita v rámci jiného vysokoškolského studia či k získání jiného nebo stejného titulu.

Dagmar Vrběcká

V Praze dne 27. 02. 2019

Abstrakt

Disertační práce se věnuje aktivizačním metodám a jejich vlivu na osvojování si slovní zásoby, a to v oblasti anglického jazyka pro lékařské účely. Experimentální výzkum se zaměřuje na to, do jaké míry aktivizační metody napomáhají osvojování si odborné slovní zásoby. K tomuto účelu byla vytvořena sada aktivit (didaktických her a inscenačních metod), které byly implementovány na začátek každého vyučovacího bloku předmětu Odborný anglický jazyk I a II. Cílem těchto aktivit bylo zopakování slovní zásoby z předchozích hodin. Opakování bylo zaměřeno na formu, význam a použití slov. Ve výzkumné práci byly použity převážně kvantitativní a částečně kvalitativní metody sběru dat, mezi něž patří progres testy, závěrečné testy a dotazníkové šetření. Progres testy a závěrečné testy byly použity k měření, zda existují významné statistické rozdíly týkající se osvojení si odborné slovní zásoby ve výsledcích studentů mezi experimentální a kontrolní skupinou. Statisticky významný rozdíl byl shledán mezi experimentální a kontrolní skupinou v jazykové úrovni B2, nikoliv však ve skupině B1. Dotazníkové šetření prokázalo, že aktivizační metody jsou účastníky kladně hodnoceny, a to jak pro přínos osvojování si slovní zásoby a rozvoje jazykové dovednosti mluvení, tak pro motivaci studentů.

Klíčová slova: aktivizační metody, aktivizující metody, aktivizační didaktické metody, metody aktivního vyučování, didaktické hry, diskuze, inscenační hry, situační hry, odborná slovní zásoba, angličtina pro lékařské účely, osvojování si slovní zásoby

Abstract

The thesis deals with activating teaching methods and their influence on vocabulary acquisition in the field of English for Medical Purposes. The experimental research explores the extent to which activating teaching methods influence the acquisition of professional vocabulary. For this purpose, a set of activities (didactic games and role-plays) was created and implemented at the beginning of each teaching block for the subject Medical English I and II. The main objective of these activities was the review of word stock from the previous lessons. The review was focused on the form, meaning, and use of words. In the research, both quantitative and qualitative methods of data collection were used, including progress tests, credit tests, and questionnaires. Progress tests and credit tests were used to measure whether there was a significant statistical difference regarding the professional vocabulary acquisition between the experimental and control groups. A statistically significant difference was found between the experimental and control groups at the B2 level only. The questionnaires showed that activating teaching methods were positively evaluated by the B1 and B2 participants and were appreciated for their practical benefits (professional vocabulary acquisition, the positive influence on developing speaking skills, and for providing motivation).

Key words: activating teaching methods, activating methods, didactic games, discussions, role-plays, situation methods, professional vocabulary, English for Medical Purposes, vocabulary acquisition

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List of abbreviations

CLIL – content and language integrated learning

CLL – cooperative language learning

CLT – communicative language teaching

EGP – English for general purposes

EMP – English for medical purposes

ESP – English for specific purposes

IRF interaction – initiation, response, feedback

L1 – first language

L2 – second language

LA – the lexical approach

STT – student talking time

TBL – Task-based language teaching

1. Introduction

Learning a foreign language is a demanding life-long process and cannot be accomplished through passive reception of information or by mere drilling (Beneš 1970: 218). It must be acquired through active practice (Komenský 1913: 41-281) attainable via activating teaching methods. A question, however, remains: to what extent can activating teaching methods contribute to the acquisition of professional vocabulary, which is the largest segment of workload in English for Specific Purposes (English for Medical Purposes) classes.

Significant changes in the concept of language learning occurred in the 20th century. Thanks to new insights into language learning developed in the field of psychology, a variety of new teaching methods and approaches emerged (Howat – Widowson 2014, Hutchinson - Waters 2010, Richards - Rogers 2014). These new methods meant changes in the traditional teacher-centred classroom. Instead of a dominant figure doling out rewards and punishments, the role of teacher shifted to that of facilitator or classroom manager, a "guide on the path of learning" (Mareš 2013: 68). The role of the student also changed as a result. Rather than a listener reciting back to the teacher information presented in class, the student became more of "an actor seeking to understand" (Mareš 2013: 68). This meant the 'new' student was responsible for shaping course content (communicative method), thus becoming co-operator (Whole Language), selector (Text-based Instruction), risk-taker (Task-based Learning) and language analyst (Lexical approach). The development of various teaching methods and approaches not only entailed a shift in the teacher-student roles but also saw classroom enrichment through the implementation of various types of activities. Activities focused on grammatical accuracy lost their privileged position and, in their place, activities focusing on fluency developed: role-plays, jigsaw, and task-completion (Richards - Rogers 2014). This led to activating teaching methods becoming an integral part of English for General Purposes as well as English for Specific Purposes (English for Medical Purposes).

Activating teaching methods can be characterized as methods that help to transform students into active classroom participants rather than mere passive recipients of information. These methods have the potential to render static instruction dynamic, thus increasing student interest in the subject (Kotrba - Lacina 2011: 47-55). The instruction is enriched by various types of interaction, with the traditional teacher-student interaction

being supplemented by pair and group work. Activating teaching methods contribute positively to personality development by focusing on critical thinking, responsibility, and creativity (Maňák - Švec 2003: 106).

In the Czech literature on activating teaching methods, we find terms such as 'aktivizační didaktické metody' (Horák 1991), 'aktivizační metody' (Kotrba - Lacina 2011), 'aktivizující výukové metody' (Maňák - Švec 2003: 105), 'aktivizující metody' (Jankovcová – Průcha – Koudela 1988, Zuckerstain 2012) or 'metody aktivního vyučování (Sitná 2009). In this thesis, we will use the term activating teaching methods. In foreign literature, the activating teaching methods are included within instructional strategies (Petty 2008: 143-358) or are divided into the following: warm-ups, activities used at the beginning of the lesson; ice-breakers, activities used at the beginning of the course for student introductions; and fillers, activities used between two more demanding classroom tasks (Ur 1996, Wright 1986, Scrivener 1994). To ensure greater clarity, we will adhere to the typology of activating teaching methods based on the thematic classification mapped out in the Czech literature. The division consists of didactic games, discussions, role-plays, and situation methods (Červenková 2013; Jankovicová – Průcha – Koudela 1988; Kotrba - Lacina 2011; Maňák - Švec 2003: 105-130; Rohlíková – Vejvodová 2012; Sitná 2009).

The aim of my research is to determine the extent to which the implementation of activating teaching methods helps influence target vocabulary acquisition as well as student motivation. The positive contribution of activating teaching methods in terms of motivation and stimulation of student interest has been outlined in the literature (Kotrba - Lacina 2011: 78, Sitná 2009: 18-23, Ur 2012: 11). However, conspicuously absent from the literature is the extent to which activating teaching methods facilitate the acquisition of professional vocabulary. This dissertation seeks to address that very question. In order to do so properly, a set of activating teaching methods was implemented which focused primarily on the acquisition of professional lexicon through speaking. The biggest segment of implemented activities included didactic games in the form of 10-15 minute warm-ups used to revise professional vocabulary items. Role-plays, discussions, and situation methods were also included, although represented in a smaller number.

The intended outcome is to establish a set of activities which not only focuses on the acquisition of professional vocabulary (measured through progress tests and credit tests)

but also promotes speaking skills and positively influences motivation (determined by evaluation questionnaires). A further intention is to create a small database of activities, modifiable and expandable, to which other teachers can have access.

This thesis consists of 6 chapters. Chapter 1 provides the objective of the research and the hypotheses. Chapter 2 gives the theoretical and contextual framework for my research. It characterizes English for Specific Purposes (ESP) and its disciplines, specifically English for Medical Purposes (EMP). Chapter 2 also describes the development of the teaching methods and approaches as they give rise to activating teaching methods. Chapter 3 is devoted to the activating teaching methods as such. The typology of these methods within the context of specific examples is provided. Also included in Chapter 3 is the possible usage of these methods in all phases of the lesson and their organization. Vocabulary acquisition is discussed as well, specifically what amount of vocabulary is desirable in EMP classes, how to teach it, and what activities to include within instruction. The chapter concludes by looking into student motivation for learning. Chapters 4 and 5 make up the empirical part. Chapter 4 describes the background of the empirical research: the language education at the Faculty of Medicine in Hradec Králové, the course design, syllabus, core material, and the final examination. It also presents the research techniques, namely student needs analysis, progress tests, credit tests, short-form evaluation questionnaires, and evaluation questionnaires. Chapter 5 contains a description of the pilot study and presents the results obtained from the study on the activating teaching methods. Chapter 6 summarizes the significance of the findings, their limitations, the pedagogical implications, and suggestions for further research.

1.1. Objectives of the research

The objective of the research is to find out to what extend implementation of activating methods can influence acquisition of the target vocabulary. The research is aimed at examining whether activating methods support better acquisition of target lexical items practiced via activating methods, i.e. if students in research group had noticeably better results when tested compared to controls.

The secondary objective is to find out the opinions of students on particular activities employing activating methods in terms of influencing motivation, the language area practised, and overall evaluation of the particular activity.

The final objective is to generate a collection of activating methods designated for students of general medicine in order to share good practices with professionals involved in teaching English for Medical Purposes.

1.2. Research questions and hypotheses

Based on the long-term teaching practice, the student needs analysis, and the study of professional literature concerning activating methods (Kotrba - Lacina 2015, Maňák -Švec 2003, Petty 2008, Rohlíková - Vejvodová 2012, Sitná 2009, Scrivener 1984, Ur 2012), the following research questions arose:

Does implementation of activating methods increase student motivation?

Apart from the motivation, can the implementation of activating methods support the acquisition of professional vocabulary? If so, to what extent?

What is student opinion on the implementation of activating teaching methods?

Do activating teaching methods increase student talking time? If so, to what extent?

From the questions, the following hypotheses concerning 3rd year medical students learning English for Medical Purposes were formulated:

0 There is no statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods, nor do activating methods positively influence student motivation.

1 There is no statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods. However, activating teaching methods positively influence student motivation.

2 There is a statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods, although these methods do not positively influence student motivation.

3 There is a statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods. Activating methods also positively influence student motivation in language learning.

2. English for Specific Purposes (ESP) and teaching methods and approaches

2.1. ESP characteristics

As this thesis deals with English for Medical Purposes (EMP), it is first necessary to approach English for Specific Purposes (ESP) as such. In other words, it is necessary to make an attempt to elucidate its characteristics. We will try to define precisely what should be understood by the term ESP and what should not.

2.1.1. Definition of ESP

Hutchinson - Waters (2010: 16-18) characterize ESP as an approach rather than a product. They state that ESP does not include a specific (meaning different) kind of language, learning material, or methodology. The elementary question to be asked is *why would a student need to learn a foreign language.* In other words, purpose should determine content. Describing what the term ESP entails is problematic, hence Hutchinson - Waters (2010: 18) prefer to define the term in the negative, stating what it does not mean rather than affirming a precise definition. Firstly, ESP is not a 'specialized variety' of a language. Although student might need to learn how to communicate in industry-specific situations, it is a form of communication requiring a foreign language. Secondly, ESP is not just a matter of professional vocabulary and grammar. It must also contain an above- structure language, register, discourse, etc. Finally, importantly, ESP does not involve a different type of language teaching as language teaching is based on principles of effective and efficient learning. ESP is understood as an approach to language teaching where all decisions about content and methods are based on student needs. Dudley-Evans – St John (2012: 4-5) expanded the definition of ESP to include absolute and variable characteristics.

Absolute characteristics include:

- ESP is designed to meet specific student needs;
- ESP makes use of existing methodology and activities of the disciplines it serves;
- ESP focuses on the language (grammar, lexis, and register), skills, discourse, and genres appropriate to these activities.

Variable characteristics are as follows:

- ESP may be designed for specific disciplines;
- ESP may use a different methodology from that of general English;
- ESP is often designed for adult learners; however, it can be used for learners at secondary school level;
- ESP is generally designed for intermediate or advanced students.

If we look closer at the variable characteristics concerning methodology, we will notice a slight discrepancy in ESP. Hutchinson - Waters (2010: 18) state that ESP does not require the use of a special methodology, while in the description of variable characteristics Dudley-Evans - St John (2012: 4-5) admit that ESP can use a different methodology. According to this characteristic, arguing that "ESP teaching makes use of a methodology that differs from that used in General Purpose English Teaching" (Dudley-Evans - St John 2012: 4) seems to imply that ESP uses methods hidden to teachers involved in English for General Purposes (EGP). Such a notion is, however, misleading. As an example, Dudley-Evans – St John provide a sample of interaction between teacher and student. In ESP classes, a teacher becomes a language consultant and the student enjoys an equal status with the teacher owing to the student's expertise in the subject matter. Teacher-student interaction is therefore different from interaction in general language classes. Describing the teacher as a 'language consultant' is typical for methods such as CLIL or Cooperative Language Learning. These methods are often used for EGP and ESP. ESP (as well as EGP) uses an eclectic approach, i.e. a variety of teaching methods or elements are utilized, from the grammar-translation method through communicative methods, CLIL, Task-Based Language Teaching, Lexical Approaches, Cooperative Language Learning, and even some alternative approaches. The teaching methods and approaches in terms of the development of activating methods will be dealt with in more detail in Chapter 2.2.

Having listed the absolute and variable characteristics, we will focus on the fields covered by ESP.

2.1.2. ESP classification

The umbrella term ESP includes a broad array of fields. Depending on whether the course takes place at the time of academic study or afterwards (when one has finished one's studies), ESP has traditionally been divided into two main areas: English for Academic Purposes (EAP) and English for Occupational Purposes (EOP) (Dudley-Evans – St John 2012:

17; Hutchinson – Waters 2010: 5-11). Both main areas are further divided into particular fields. The division of ESP according to the above-mentioned authors is presented in Figures 1 and 2; for clarification purposes, EMP is circled.

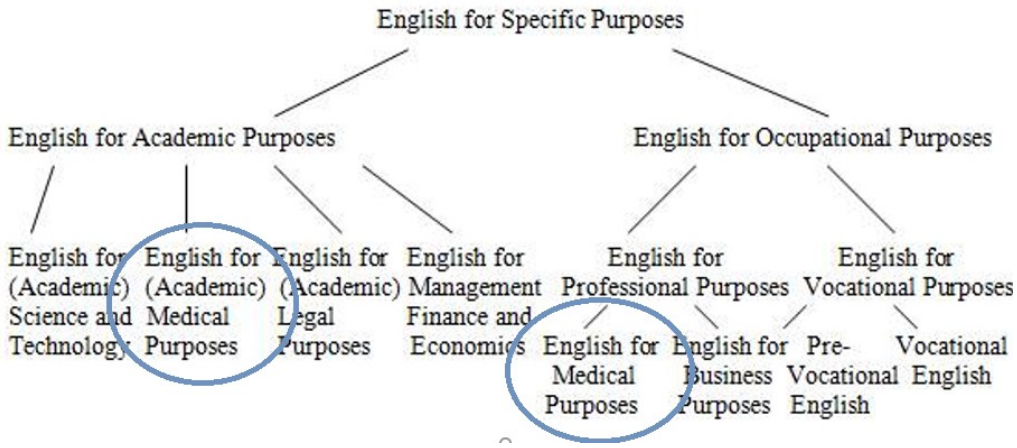


Figure 1: ESP classification by Dudley-Evans – St. John (2012)

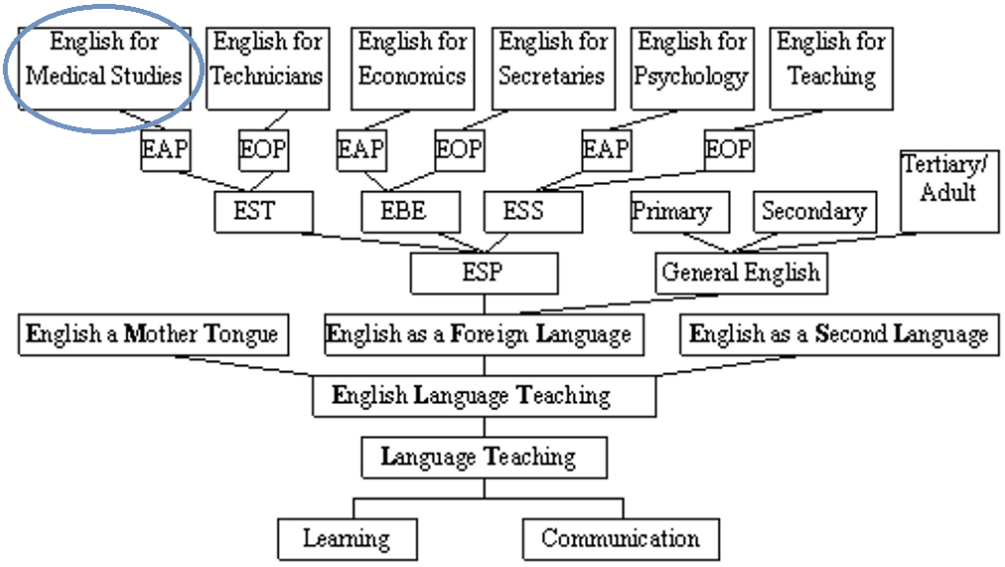


Figure 2: ESP classification by Hutchinson – Waters (2010)

It is obvious that dividing ESP into particular disciplines is not a simple matter. Some disciplines are extensive and have a permanent place in ESP, such as Business English (BE), while less extensive fields are not mentioned in the tables at all. For such cases, Mackay and Mountford (Mackay – Mountford 1978 qtd. In Kučírková 2014: 31) distinguish another area, namely 'restricted language' for a very limited repertoire, such as English for Aviation, etc. However, we are interested in English for Medical Purposes (EMP) and therefore will draw attention to the Dudley-Evans – St John subdivision. As shown above (in Figure 1),

EMP is placed both in English for Academic Purposes (EAP), designated for medical students, as well as in English for Occupational Purposes (EOP), designated for practitioners. This dissertation deals with the teaching of a medical language for medical students and therefore belongs to the sphere of EAP. This distinction is necessary because it will fundamentally affect the degree of specificity adequate for the course.

2.1.3. EMP and EGP overlap

For ESP as well as for EMP, overlap with general English is common since medical professionals must be capable of communication in the healthcare environment. However, in situations involving doctor-patient communication professionals are obliged to use many lay terms, which naturally entails broader knowledge of the general language. Strevens places ESP in a separate category from EGP (Strevens 1988 qtd. in Dudley-Evans - St John 2012: 3), but it is obvious that such a division is not acceptable. Dudley-Evans and St John (2012: 9) have also dealt with ESP and EGP overlap, adding a range of five types of ESP courses. Such courses vary from general English courses (position one) to very specific individual academic classes (position five). EMP can be found in position four alongside legal English or BE, more specifically business negotiation. Figure 3 shows types of ESP courses.

GENERAL SPECIFIC				
Position 1 English for Beginners.	Position 2 Intermediate to advanced English for General Purposes (EGP) courses with a focus on particular skills such as listening, speaking, reading or writing.	Position 3 EGAP/EGBP courses based on common core language and skills not related to specific disciplines or professions.	Position 4 Courses for broad disciplinary or professional areas, for example Report Writing for Scientists and Engineers, Medical English, Legal English, Negotiation/Meeting Skills for Business people.	Position 5 1. An academic support' course related to a particular academic course. 2. One-to-one work with business people.

Figure 3: Types of ESP courses by Dudley-Evans – St John (2012: 8)

In EMP instruction, it is necessary to include professional medical terminology concerning body systems, signs and symptoms of various diseases, and diagnostics. Correct usage of language according to circumstantial context is also important. Moreover, students have

to acquire lay terms for doctor-patient communication for such tasks as taking a history, explaining a diagnosis, etc. It means a strict boundary between EGP and EMP is impossible to set as these fields overlap. This overlap must be taken into consideration when designing EMP courses.

2.1.4. Student need analysis

Having mentioned ESP and EGP overlap, what distinguishes ESP from EGP must be mentioned as well. ESP cannot rely on a textbook to determine the course content in the way EGP can. ESP courses may be so specific that publishing a textbook for a given course would not be profitable (Howat - Widdowson 2013: 343). Therefore, ESP educators need to make a greater effort to create the course content. The main objective of ESP is to prepare students for effective communication in target situations for study or employment (Dudley-Evans - St. John 2012; Hutchinson - Waters 2010). The content of the course must thus meet the specific needs of the students.

When creating a course Hutchinson – Waters (2010: 21-23) mention the need to ask the questions ***Why****?* ***Who****?* ***Where****?* ***When****?* ***What****?* and ***How***? ***Why*** the student is learning the language, ***who*** is involved, and ***where*** the instruction takes place are ultimately based on the needs analysis. ***What*** the student must learn is involved in the curriculum, and ***how*** to do it entails methodology. Modification can occur - the question ***what*** *the learner needs to learn* is also based on a needs analysis. Curriculum should correspond with the demands of the particular institution and students. This aspect of ESP, its needs analysis, has been a positive influenced on TESOL and has enriched the field of applied linguistics.

According to Hutchinson – Waters (2010: 55-58), student needs are to be divided into:

- necessities;
- lacks;
- wants.

As far as the 'necessities' are concerned, it means what students need to know to function effectively in target situations. In EMP, this might involve understanding medical reports, communicating effectively in a medical environment, and dealing with patients (taking a medical history, explaining diagnoses, etc). For such communication, the student needs to acquire not only the technical and semi-technical vocabulary (and its proper morphological

and syntactic usage) but the appropriate register and discourse as well. It is necessary to analyse what the student has learned so that we can identify which of the necessities the student lacks. 'Lacks' mean the gap between the existing language proficiency of the student and the target proficiency. Student 'wants' do not often correspond with the above-mentioned necessities and lacks, as illustrated by the following example. The overall number of medical articles published in English increased from 53% in 1966 to 72.2% in 1980 (Ferguson 2015: 246). By 2000, that number had risen to 80% of medical publications (Salager-Mayer 2014: 49). It would seem that a medical student should want to prioritize reading as a language skill. However, our student needs analysis questionnaire shows that students have a different opinion, with speaking skills being the area students most often wanted to work on. The reason students might not want to prioritize reading is the fact that they already have a strong foundation in Latin. They may feel this is adequate when reading technical texts in English, since English medical vocabulary has been heavily influenced by Latin. Another aspect to consider here is that the reading of professional articles can be done at the student's own pace and with the aid of a dictionary. Moreover, the study of medicine already greatly emphasizes passive use of English (reading of medical textbooks). With this in mind, and in light of information obtained from needs analysis questionnaires, it is advisable to shift classroom focus from passive activities to active ones.

2.2. Teaching methods and approaches: The development of activating teaching methods

Activating teaching methods have become an integral part of every current teaching method and their description can be found in Czech and foreign professional literature. Rohlíková – Vejvodová (2012) pursue activating methods at the tertiary level, namely presentations, discussions, and cooperative learning. Sitná (2009) focuses on active learning; Kotrba – Lacina (2015) describe a wide range of activating methods, especially for Business English Purposes. Maňák – Švec (2003) focus on methods developing autonomy and creativity. From the professional literature in English, we can mention the English teacher G. Petty (2008). Petty deals with the following: simulation activities, games for language and communication skills, projects, and discovery methods. Scrivener (1984) approaches the activating methods according to when they are implemented in the classroom: 'warm-ups,' if implemented at the beginning of the lesson, and 'fillers' and 'breaks' if implemented between two demanding phases of the lesson. Ur (2012) provides examples of types of activities in connection with the four language skills. Moreover, she has published a series of supplementary material focusing on vocabulary practice (2012) and grammar (1998). We can also find many supplementary resources by Watcyn-Jones focusing on vocabulary (2001) and grammar (2001) as well as pair work (2002). Harmer (2013) provides examples of activating teaching methods in connection with the four language skills and with grammar and vocabulary practice. Richards – Rodgers (2014) in their publication *Approaches and Methods in Language Teaching*, while not offering an overview of activating methods per se, nonetheless give an overview of the development of teaching methods and approaches. Each teaching method they describe contains types of activities that are equivalent to activating teaching methods. The following section offers a diachronic overview of activating methods.

One of the most well-known teachers in history is Jan Ámos Komenský. This pedagogue and world-renowned philosopher was certainly before his time. Upon writing Didactica Magna (1627-1638), Komenský saw the need to create a universal teaching system in which the teacher would teach less and the "pupil would learn more ... in a school where there was less unnecessary drill, more games, fun leading to systematic progress" (Howatt - Widdowson 2014: 47, Komenský 1913). Unfortunately, his ideas on education were too

ambitious and unrealistic and failed to survive their time period. Fortunately, they were rediscovered in the 19th century (Howatt - Widdowson 2014: 44). Jan Ámos Komenský can be considered an initiator and promoter of activating methods since play and joy are elements characteristic for activating methods.

In the 20th century, a general change in the concept of foreign language teaching emerged. New knowledge in psychology brought new insights into language learning, foreign language learning in particular (Howat – Widowson 2014, Hutchinson – Waters 2010: 39-52, Richards – Rodgers 2014: 22-29). Language learning has experienced frequent changes and innovations, prompting the development of new learning methods which have superseded previous ones. Teaching freed itself from the grammatical translation method and embraced new methods, which subsequently lead to the development of activating teaching methods. The first obvious development of these methods is to be found in communicative language teaching (CLT). Task-based language teaching (TBL), content and language integrated learning (CLIL), the lexical approach (LA), and cooperative language learning (CLL) should also be mentioned within the context of activating methods and ESP.

2.2.1. Communicative language teaching (CLT)

After World War II, the development of technology and trade led to the global expansion of English in these spheres (Hutchinson – Waters 2010: 6). There was a need to focus the teaching of English on its function in terms of communication potential (Richards – Rodgers 2014: 83). The existing Situational Language Teaching (SLT) method, primarily aimed at basic language structures, had run its course. What followed was the development of communicative language teaching (CLT) providing focus on communicative skills rather than simply mastering language structures. Another reason for the emergence of CLT, in addition to the boom in business and technology, was the new ideas on education and linguistics coming out of philosophy - for example, speech acts, discourse, coherence, and cohesion (Howatt - Widdowson 2014: 331). The main goal of teaching became communicative competence focusing on all four language skills.

CLT draws on the functional theory of language, viewing it as a means of communication. It further relies on the cognitive aspect of learning theory (Richards - Rodgers 2014: 87-90). The main principles of CLT include the principle of communication and meaningfulness.

CLT activities in the classroom are selected according to the extent to which the student is engaged in the usage of meaningful and authentic language, bringing new forms of interaction. Frontal learning has been enriched by pair and group interaction, thereby shifting traditional roles in the classroom. The student has abandoned the role of passive recipient and has turned into an active participant who collaborates, listens to other students, and takes on more responsibility for learning. The teacher has lost the central position and has become a facilitator, organizer, and counsellor who analyses needs.

CLT brings new types of tasks. These include activating teaching methods based on the above-mentioned changes. Problem solving activities in the context of CLT need to be addressed (Richards – Rodgers 2014: 86). Howatt – Widdowson (2014: 334) state that "people learn by devising mental plans, testing them out, and if they are successful, adopting them and moving on." This 'discovery' and 'activity' has a positive impact on education. Activities focusing on the development of communicative competence have since emerged, such as picture comparison, ordering, and giving instructions. In addition, many social interacting activities are used: discussion, debates, situational games, jig-saw activities, role plays, map-reading, and interviews.

In the 1980s, CLT prompted many changes in language teaching. Its elements can be found in other modern teaching methods such as CLIL (content and language integrated learning), text-based instruction (TBI), and task-based language teaching (TBLT).

2.2.2. Content and language integrated learning (CLIL)

According to Richards – Rodgers (2014: 116), CLIL is an approach where "teaching is organized around the content or subject matter that the learner will acquire…rather than around a linguistic syllabus." It has a lot in common with ESP. In both CLIL and ESP, the linguistic content and the topic content support each other. Of course, CLIL and ESP are not identical. In CLIL the teacher teaches the content through a second language, meaning the teacher is the bearer of the knowledge. Compared to ESP, it is not the teacher who is sufficiently grounded to teach the subject matter but frequently the learner who is the bearer of the content knowledge.

Several reasons why CLIL has expanded in recent years include the increasing focus on real communication and information exchange and the inclusion of content as subject matter.

In Europe, CLIL has helped to promote bilingualism as reflected in the European Commission's paper *Teaching and Learning: Towards the Learning Society* (1995).

Much CLIL classroom practice involves the students being active participants in developing their potential for acquiring knowledge and skills through a process of inquiry and problem-solving. Activating methods can be used in order to achieve "activation, inquiry and problem-solving" (Kotrba – Lacina 2011; Maňák – Švec 2003, Petty 2008, Sitná 2009).

The main principles of CLIL include the notion that using language as a means of understanding content helps students to acquire the language more successfully. Furthermore, CLIL reflects student needs and interests, supports individual development (as stated by Brinton in Richards – Rodgers 2014: 119), and helps develop a bilingual citizenry. It exposes learners to meaningful and cognitively demanding language in the form of authentic material. Coyle includes interaction in the learning content as fundamental to learning (in Richards – Rodgers 2014: 119).

CLIL draws on the theory of language based on a lexical, interactional, and sociocultural model. A lexical theory of language prioritizes the role of subject-specific vocabulary in language - the lexis and grammar are seen as interdependent. Subject-specific vocabulary is acquired in phrases or chunks. The lexical model is particularly important for this dissertation, since the focus here is on activating methods and their influence on the acquisition of technical and semi-technical vocabulary. The interactional model views language as a means of realizing interpersonal relations. The sociocultural model views language as a communicative activity in a social context (Richards – Rodgers 2014: 24-25). CLIL relies on the sociocultural theory of learning and argues that learning is an interactive process carried out in a particular social setting and is culturally organized (Richards – Rodgers 2014: 26-27).

There is a shift both in the role of the student and the teacher here as well. Students are autonomous and responsible for learning. They are encouraged to collaborate, to take an active role, and to become active interpreters of input. They explore alternative learning strategies and seek multiple interpretations of oral and written texts. The teacher is involved in cooperating with other teachers and working collaboratively on the design of the course and materials. Teachers must often familiarize themselves with difficult content. Due to selecting and adapting authentic materials, the teacher becomes an author, a

student needs analyst, a language analyst, a program administrator, a helper, a manager, and a facilitator.

2.2.3. Task-based language teaching (TBLT)

In task-based language teaching, "the use of tasks is the core unit of planning and instruction" (Richards – Rodgers 2014: 174). TBL works on the same principles as CLT. These include authentic communication and meaningful tasks rather than activities focusing on form. Students thus have better opportunities to activate learning processes and are encouraged to comprehend, produce, and interact in the target language, with attention being focused on meaning rather than form. As far as the theory of language is concerned, TBLT draws on the interactional and sociocultural model. The role of meaning is central in language use. Language is understood as a tool to achieve real-world goals. Lexical units also play an important role in second language learning. TBLT employs cognitive, interactional, and sociocultural theories of learning (Richards – Rodgers 2014: 26-27, 179-183).

Apart from CLT, TBLT has a lot in common with ESP. Firstly, both approaches emphasize the importance of needs analysis. Secondly, they do not provide the basis for commercial textbooks. Teachers must at times function as course designers and material developers.

Typical task types for TBLT require listing, ordering and sorting, comparing, problem-solving, sharing personal experiences, and creative tasks. To be more concrete, pedagogical tasks such as information gap tasks, problem-solving tasks, decision-making tasks, or opinion exchange are included. Many of these tasks can be considered activating methods functioning as a vehicle for promoting communication and authenticity.

Learners become group participants, monitors, or risk-takers. Teachers have to adopt different roles and become motivators, supporters of the learner's motivation, efficient task-organizers, and task selectors or monitors.

2.2.4. Lexical approach (LA)

Hutchinson – Waters express (2010: 49) that 'individual items of knowledge have little significance on their own'; what is important is the connection to network of existing knowledge. The existing network makes new connections possible. The same might apply

for vocabulary acquisition, not individual items to be learnt but connections and links to existing knowledge.

The lexical approach is derived from the belief that building blocks, so-called 'multi-word prefabricated chunks' (Harmer 2013: 74) of language learning and communication, are not grammar, functions, or notions but rather lexis. This approach emerged in the 1990s and partially awakened the theory of structuralism from the first half of the 20th century, a period during which vocabulary was viewed as one of the elementary units of language. However, instead of single-word lexical items, LA is concerned with multi-word lexical units ('chunks') such as collocations or fixed phrases (Schmitt in Richards and Rodgers 2014: 215). This approach, alongside the development of information technologies, made it possible to collect and analyse vast corpora of actually occurring language data (Howatt – Widdowson 2014: 357), i.e. the British National Corpus (Lancaster University 2014). Nowadays, these databases function as important resources for information concerning lexis.

As for the acquisition of vocabulary, many theories concerning vocabulary and meaning have emerged. The lexical field theory, developed by Jost Trier in 1931, should be mentioned first. Trier proposed the notion that words acquired their meaning through their relationships to other words within the same word-field, by which mechanism they create a lexical field like a mosaic (Geeraerts 2009: 57-68). In the 1970s, prototype theory was formulated by Eleanor Rosh and dealt with the internal structure of categories into which vocabulary is arrayed (Geeraerts 2016). Some members within the category are clear cases and are central, while some are more peripheral (Kearns 2008: 565; Lipka 1986: 85-94). Concerning EMP, the category of gastro-intestinal system might serve as an example. Cases such as 'stomach' or 'intestine' are clear and therefore central within the category, while 'villi' or 'lining' are more peripheral. Many authors have mentioned word mapping as an effective activity for acquiring vocabulary and have gone on to make use of prototype theory. This theory can be viewed in contrast to componential analysis (Geeraerts 2016: 2). Componential analysis interprets the sense of a word in terms of smaller sense components (Kearns 2008: 563).

The lexical approach draws on the cognitive theory of learning. It means student acquisition of 'chunks' is facilitated through noticing, cognitive processing, exposure, as well as through

comparisons with L1, since many collocations do not overlap completely or do not exist in the language being studied and L1.

The goal of LA is to develop student awareness and to use the nature of lexical 'chunks' to provide students with strategies for recognising, learning, structuring, storing, and using the chunks they encounter (Richards – Rodgers 2014: 218).

Activities used within LA include awareness activity training in text chunking as well as activities focused on remembering the chunks (Richards – Rodgers 2014: 220). As this dissertation focuses on activating methods enhancing the acquisition of medical terminology through speaking, text chunking activities will be excluded and only activities enhancing chunk remembering will be included. Such activities require mental operations in which students have to think about the spelling of the 'chunk', the pronunciation, grammatical category, meaning, and associations with other words. The more links students are able to establish, the more effective the acquisition. Many applied linguists suggest that teachers should re-examine course books for collocations, add exercises focusing explicitly on lexical phrases, and develop activities that enable students themselves to discover collocations crucial to their particular needs (Richards – Rodgers 2014: 224). These 'additional activities' can be created when employing activating methods, which not only add exercises with target collocations but ensure a meaningful activity whereby students are actively engaged in usage of the target language in a positive classroom climate.

While Richards and Rodgers do not offer any specific types of activities, activating methods such as information gap tasks (where students give definitions of exposed vocabulary) or completing the target collocations can function as suitable examples.

The teacher must take on the role of language analysist, resource provider of the language, and classroom manager. Students have to take active roles as language analysts and data collectors. The traditional teacher's role as 'knower' has shifted to the learner as 'discoverer' (Richards – Rodgers 2014: 223).

2.2.5. Cooperative language learning (CLL)

Cooperative language learning refers to an approach designed to foster cooperation and to develop critical thinking and communicative competence through socially structured

interaction activities (Richards – Rodgers 2014: 248). The creation of a positive learning environment in the classroom is crucial. Students are engaged actively in lessons if they are encouraged to share opinions, solve problems, and help each other (Maňák – Švec 2003: 137-151). The diversity of student motivations and interests is taken into consideration; strategies enabling the class to function as a cohesive, collaborative group are used. CLL aims to raise the achievement of all students, the gifted as well as the less gifted, and in doing so seeks to establish positive relationships among students and foster healthy social, psychological, and cognitive development in all students. CLL enhances cooperation rather than competition. Kasíková (2016: 26-28) deals with the difference in cooperative and competitive teaching arrangements. She suggests that a cooperative task is based on cooperation in which the results of an individual student are dependent on the whole group and in which the whole group benefits from the work of the individual student. This is called positive interdependence. In contrast, the basic feature of competitive teaching is confrontation, contest, and fight, thereby creating negative interdependence. The success of one student is narrowly connected with the failure of the other students. Ondřej Štefl, the director of Scio Company in charge of National Comparative Tests and the founder of the grammar school PORG, explains that some parents want the school to match their children to the bat. But the society where people can only fulfil orders will not prosper. On the contrary, people who learn to cooperate, communicate, who are inquisitive, consistent, and creative, people who know how and want to learn, who are empathic and kind, will live fully, will be content with their lives and will have interesting jobs (Němec 2017).

The main principles of CLL include providing interactive pair/group work in order to ensure naturalistic second language acquisition, focusing on particular items, language structures and communicative functions through the use of interactive tasks, enhancing learner motivation, and reducing student stress. CLL in second language acquisition also means increased frequency and variety of second language practice through different types of interaction, which leads to a much needed increase in student talking time (Harmer 2013:118-119).

CLL supports an interactional theory of language. Language is seen as a resource for expressing meaning realized through collaboration, as a means of expressing different communicative functions, as a means of interpersonal and social interaction, and finally as

a resource for carrying out tasks. As far as the theory of learning is concerned, CLL relies on interactional theory, constructivism, and sociocultural learning theory (Richards – Rodgers 2014: 27-28).

Group formation is an important factor in creating positive interdependence. It is essential to consider the size (typical group size varies from 2 to 4) and selection (group selection can be organized by the teacher, student or randomly) and the student roles within the groups (Richards – Rodgers 2014: 250, Kasíková 2016: 76-92, Kasíková 2009:109-116). Activities typical for CLL include mainly pair/group work which engages students in communication processes like information sharing, negotiation of meaning, and interaction. Numerous activity types can be listed: team practice, for example, in which all groups work on the same material; jig-saw, in which each group member receives a different piece of information; or cooperative projects.

Students become active participants and autonomous learners while taking on classroom roles such as group members, planners, monitors, evaluators, tutors, checkers, recorders, and information distributors. The role of the teacher also differs from the traditional role of controller. The teacher functions as facilitator, helper, creator of positive classroom climate, task planner and selector, and manager of the classroom setting, the groups, and the roles.

2.2.6. From teaching methods through ESP to activating teaching methods

This chapter has covered English for Specific Purposes from different angles. ESP characteristics has been discussed in order to understand what ESP means. ESP classification has helped to define a place for EMP. The specific EMP this dissertation deals with has been defined as a field belonging to English for Academic Purposes, as courses for a broad discipline of professional areas where EMP and EGP overlap. We have deliberately avoided the detailed development of ESP as it only marginally relates to the development of activating teaching methods. Instead, we have focused on the development of teaching methods in connection with the development of activating teaching methods. More information concerning ESP history can be found in the publication by Howatt – Widdowson (2014: 340-345) or in other publications dealing with ESP (Dudley-Evans - St Jones 2012: 19-32; Hutchinson - Waters, 2010: 9-16).

Activating teaching methods are not new to language teaching methodology. They appeared as early as the 16th century with Jan Ámos Komenský, who tried to eliminate drill and wished to bring more games and joy to instruction. It took another five centuries before activating methods found a stable place in the language teaching methodology. Communicative language teaching (CLT) freed the discipline from the notion that the acquisition of basic language structures is the most important aspect of language teaching. CLT saw language as a means of communication, therefore its main objectives were focused on communicative competence, authenticity, and meaningfulness. It initiated the development of other methods and approaches. As this dissertation deals with ESP, not all methods and approaches have been presented in detail (for more, see Richards and Rodgers 2014, Howatt – Widdowson 2014). However, methods and approaches included content and language integrated learning, task-based language teaching, the lexical approach, and cooperative language learning. These methods and approaches contain many activating methods that have introduced activities based on problem solving. These activities include the following: team activities in which students work on the same material; information-gap activities in which students have different information and are supposed to compare pictures, sort events, and give instructions; debates and discussions; role-plays; and many others. All these activities make static instruction dynamic, enabling students to become active participants. Both the teacher and students take on different roles. The traditional teacher role of knower and controller shifts to facilitator, monitor, helper, organizer, and student needs analyst. Accordingly, instead of passive receiver, students become active participants, collaborators, monitors, risk-takers, language analysts, evaluators, or information sharers.

Activating teaching methods thus being firmly established as integral to language teaching, the following chapter will introduce the typology of activating teaching methods and provide specific examples.

3. Activating teaching methods

3.1. Typology

Activating teaching methods can be divided according to aspects such as classroom time spent on the activity, demands on preparation, thematic classification, purpose, etc. As the scope of this thesis does not allow all aspects to be included, we will divide the subject according to the thematic classification. Based on the thematic classification, Červenková (2013: 74-94) includes the following activating teaching methods: discussions, heuristic methods (including problem solving), situation methods, role-plays, and didactic games. Horák (1991: 39-48) deals with participation methods, namely with dialogues, situation methods, role-plays, and brainstorming. Kotrba - Lacina (2011: 97-161) divide activating teaching methods into problem solving, games, discussions, situation methods, and role-plays. Jankovcová – Průcha – Koudela (1988) include discussions, problem-solving activities, games, and role-plays. Maňák - Švec (2003: 105-130) list the following activating teaching methods: discussions, heuristic methods (including problem solving), situation methods, role-plays, and didactic games. They list activities such as interviews in their definition of traditional teaching methods (Maňák - Švec 2003: 69-76), although they also state that interviews are generally understood to be a means of activating students (2003: 69). Brainstorming and projects are grouped under the term complex instruction (Maňák - Švec 2003: 164-174). Pecina – Zormanová (2009: 57-86) divide activating teaching methods into discussions, problem solving methods, didactic games, role-plays and situation methods, brainstorming, and projects. Rohlíková – Vejvodová (2012: 39-70) deal with presentations, discussions, projects, problem solving and investigation methods, simulation games, situation games, and role-plays. Zukerstein (2012, 12-20) includes discussions, situation games, role-plays, didactic games, problem solving, and projects. In spite of minor variations, overlap can be found among the methods listed above. In this section, we provide the typology of activating teaching methods within the context of specific examples, namely their implementation in a medical English course.

3.1.1. Problem solving methods

The majority of activating methods are based upon problem solving tasks for students. Compared to traditional frontal teaching, problem solving tasks require active participation, productive thinking, and independence. In problem solving tasks, the teacher does not reveal the new knowledge directly but encourages students to discover new knowledge through intense thinking by themselves or with adequate guidance from the teacher (Horák 1991: 13; Pecina – Zormanová 2009: 61). Maňák - Švec (2003: 113) state that problem solving tasks force the student to learn and discover. This leads to the development of an active and creative personality, which is in accordance with the requirements of the Curriculum Reform (MŠMT 2001: 16-18). The curriculum document (MŠMT 2001: 64-76) regarding the tertiary tier of study emphasizes the need to equip students with critical and creative thinking skills and make them aware of the necessity for life-long learning and adaptability in the ever changing job market. According to Framework curricula, institutions should create a study environment which seeks to motivate through approaches and methods supportive of creative thinking and student independence. Problem solving is mentioned as one of the desired competences whereby students are taught to recognize problems, create and test hypotheses, suggest solutions, apply adequate methods when solving the problem, find arguments and formulate them. Students are thus open to other procedures and to evaluating the possible pros and cons of divergent solutions (VÚP 2013: 9).

Problem solving tasks can be divided into group solving tasks and individual solving task and include a variety of methods: case studies, heuristic methods, black boxes, working with text, scattered text, and so on (Kotrba – Lacina 2011: 102-107). A concrete example of a problem-solving task in the form of a case study is provided below.

Activity: Case Study

Aim: figuring out all the medical information, with a follow-up discussion to diagnose the patient and suggest the potential treatment.

Aids: handout

Procedure: Students in groups discuss the potential diagnosis and treatment based on the case study provided.

William Henry Hudson, AGE 65 SEX: M MARITAL STATUS: W OCCUPATION retired postmaster
c/o Headaches for 4 mths. Wt loss. Headaches feel like a heavy weight. NO nausea or visual symptoms. No appetite. Diff. starting to PU. Nocturia x3.

Figure 4: Sample of a problem solving task – case study

3.1.2. Didactic games

From a psychological point of view games are characterized as a basic form of human activity. In the world of 'homo ludens', games serve as a means of developing abilities and skills which can then be applied later in life. They can also help to ease tension in stressful situations (Čáp - Mareš 2001: 183). In ESP instruction, games serve as compensation for monotonous work. Harmer (2007: 102) characterizes game playing as an important part of the repertoire of every teacher, not only for the fact that such activities enable a foreign language to be practiced but also for their therapeutic effects. Activating teaching methods mainly employ didactic games and competitions that are based on problem solving tasks. Maňák – Švec (2003: 126) report that this basic activity is a 'free activity which has no specific purpose or goal, the goal and value being the game itself'. This is certainly true for games in general. However, such a statement could be countered by the argument that implementing a didactic game in instruction requires the teacher to bear the overall classroom objectives in mind and to define rules and content clearly (Ur 2012: 16). Failure to set goals and clear rules, in addition to lack of feedback, might be one of the reasons why some students and instructors regard games as a waste of time.

Effective vocabulary practice can be implemented in a number of ways, the activity Magic Circle being one of them. Magic Circle is very simple and undemanding in terms of aid preparation and uses only cards with vocabulary items. Moreover, the identical set of cards can provide endless variations of didactic games focusing on vocabulary practice. The cards can be arranged in a circle; at other times they can be arranged in a face-down pile (for the game Describe and Guess). Students can pick cards individually and be given the task of describing the card's content. All these variants involve active participation and free production of the target language in a friendly atmosphere full of joy and entertainment.

Activity: Magic Circle

OBJECTIVE: Revision of vocabulary from previous lessons concerning body parts
AIDS : Cards with vocabulary concerning body parts, dice, counters.

Procedure: Cards are arranged in a circle. Student A rolls dice, counts the cards and describes the word. If correct, s/he takes the card, if incorrect, s/he leaves the card in the circle. The activity ends when there are no cards in the circle.

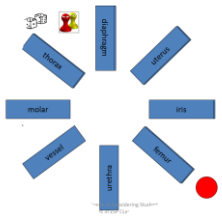


Figure 5: Sample of a didactic game focusing on vocabulary acquisition – body parts

3.1.3. Discussions

Discussions are essential. We all belong to social groups and mutual communication within and among groups is necessary. Maňák – Švec (2003: 108) point to the fact that for a long time discussions were either entirely neglected in Czech pedagogy or rarely used when compared to teaching methods abroad. Classroom discussion encourages the expression of thoughts and feelings, the exchange of views on a given topic, argumentation, and cooperative problem solving. Participants learn how to understand one another and how to listen. In addition, discussion methods have the potential to increase attention and provide feedback to teachers. Methods for activating discussion can include brainstorming (Horák 1991: 45-49; Pecina – Zormanová 2009: 78-80; Zukerstein 202012: 15), rounds, carousel, snowball, panel discussion, consensus method, debate, etc. (Kotrba - Lacina 2011:

127). Some methods are perhaps well known, whereas others such as brainwriting, rounds, carousel, and snowball should be briefly introduced. Brainwriting is similar to brainstorming and is based on the production of new thoughts and hypotheses through associations in written form. It is usually organized as a whole class interaction. In rounds and carousel, students work in groups. In rounds, students usually pass around an object, the possessor of which is required to speak on a given topic. Carousel is more demanding in terms of organization. It involves a circle within a circle in such a way that leaves a student from the inner circle always facing a student from the outer circle. This allows discussion in pairs, thus providing a change when needed. In snowballs, every student starts working on the task individually. They then form pairs and later groups of four, etc. For detailed information, see available resources by Kotrba – Lacina (2010: 127-142), Sitná (2009: 67-116), or Rohlíková – Vejvodová (2012: 61-63). Once again, if discussion methods are implemented, they must correspond with the aims, content, and environment of the lesson as well as the individual needs of the students. The teacher must make sure that none of the students is ridiculed or made fun of. Only then can discussions enrich the instruction.

Activity: Genetically modified embryos

OBJECTIVE: vocabulary practice related to genetics, gynecology

AID: poster "When are they going to be born?"

Procedure: Students in groups discuss the issue of genetically modified embryos, from the viewpoint of a molecular biologist, a mother of a handicapped child, owners of private clinics for assisted reproduction, professionals involved in medical ethics, and a theologian.

Figure 6: Sample of discussion concerning the ethics of the usage of genetically modified embryos

3.1.4. Role-plays

Role-plays require certain social roles to be performed in simulated situations based on the student's direct experience. Students can benefit from role-plays by deepening their

professional knowledge. They can improve in the understanding of human relationships, acquire appropriate ways to respond in certain situations, and develop communication skills (Jankovcová – Průcha – Koudela 1988: 127; Kotrba - Lacina 2011: 147). Role-plays are organized in three stages – the preparatory stage, self-realization, and an evaluation of the production.

Activity: **At the endocrinologist**

OBJECTIVE: to engage in a dialogue with a patient suffering from hyperthyroidism, including history-taking, explanation of investigation methods and potential treatment.

AIDS: handout

Procedure: Students work in pairs. Student A plays the part of a doctor, taking the patient's history. Student B plays a patient responding to the doctor's questions.

Figure 7: Sample of a role-play: endocrinologist and patient suffering from hyperthyroidism

3.1.5. Situation methods

Situation methods are based on solving a transparent problem. They are mostly conveyed in text and therefore have a static character. The goal of these methods is to determine the cause of the problem and find alternative solutions (Kotrba - Lacina 2011:142-146). The phases which address problem-solving situations are: 1) choice of topic; 2) familiarization with materials; 3) custom case studies; 4) solution proposals; 5) discussions (Maňák – Švec 2003: 119-120). Situation methods include methods of conflict situations, incident methods, and methods of progressive familiarization with the case and bibliographic methods (Švec 1979).

Activity: Chest pains - causes, diagnostics methods, diagnosis

OBJECTIVE: to make adequate questions while taking a history, to be able to explain diagnostic method and diagnosis and diagnose the patient

AIDS: handout

PROCEDURE: 1) Students in pairs describe the picture and analyse what could have happened.

2) Student A takes student B's history.

3) They swap roles; student B explains the diagnostics method.

4) Student A explains the diagnosis to the patient.

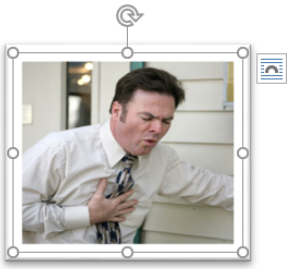


Figure 8: Sample of a situation method – method of progressive familiarization with the case "Chest pains"

3.2. Activating teaching methods and their usage in lesson phases

Activating teaching methods can be used in all phases of the lesson, whether it is the initial revision phase, the introduction of new material, or the final summary phase. Implementation of the activating method can eliminate stress and create a friendly atmosphere. Thanks to a more relaxed atmosphere, which can positively influence student performance, students need not fear making mistakes. Additionally, the game/play aspect of the lesson provides entertainment value, the "fun factor."

3.2.1. Initial phase

In the initial phase (revision of previous lessons), the teacher may use traditional methods of testing student knowledge or select one of the activating methods to achieve the same result. To illustrate, a concrete example of a didactic game in the form of a jigsaw is provided, which can be compared to a written mini-test. The aim of both approaches is to revise vocabulary from the previous lesson on skin lesions and injuries.

Activity: Crosswords

OBJECTIVE: ability to give definitions of skin lesions and injuries

AIDS: handout

PROCEDURE: Student A chooses one item and describes it to student B. Student B guesses the word/phrase and writes it down. Student B describes one item from his or her list. Students take turns until all boxes are completed.

04 ENDOSCOPY - Handout A

GUESSING GAME — STUDENT A

	A	B	C
1.	superficial		cold sore
2.			incised wound
3.	contusion	abrasion	
4.		cicatrix	
5.			wart

04 ENDOSCOPY - Handout B

GUESSING GAME — STUDENT B

	A	B	C
1.		bruise	
2.	shingles	pressure sore	
3.			scratch
4.	laceration		graze
5.	blow (a noun)	penetrating wound	

Figure 9: Sample of a didactic game (jigsaw) concerning skin lesions and injuries

What are the skin lesions and injuries? The first is done for you

1. A small blister occurring on the lips. **Cold sore**
2. An injury made by a sharp edge.
3. A small pimple or elevation of the skin containing pus.
4. An acute viral infection characterized by the eruption of vesicles along the affected nerve path.
5. A pressure-induced ulceration of the skin occurring in persons confined to bed for long time periods.
6. A hard rough lump growing on the skin, caused by infection with certain viruses and occurring typically on the hands or feet.
7. A small growth on the human skin, usually slightly raised and dark and sometimes hairy.
8. A mole present on the skin from birth.
9. A chronic recurrent disorder marked by reddish patches covered by itchy silvery grey scales.
10. A superficial inflammatory process concerning the epidermis. Its progress is marked by redness, itching, minute papules and vesicles, weeping and crusting.

Figure 10: Sample of a minitest

Comparing both examples, it is obvious that the activating method can be used to test vocabulary knowledge in the same way that a more traditional mini-test would. However, instead of the passive reading of a mini-test, the activating method encourages students to create their own descriptions, i.e. to produce language, and supports the usage of the language skills speaking and listening. Adding value is the fact that student collaboration is necessary. Plus, the game help create a friendly atmosphere.

3.2.2. Middle phase - exposure and consolidation of new material

In the phase concerning exposure to new material and consolidation, a wide range of activating teaching methods can be used, including discussion, didactic games, situation games or role-plays; such activities can provide independent practice. The concrete example *Signs and Symptoms,* provided in Figure 11, can serve as an example to compare with material form the core study material *Professional English in Use: Medicine* (Glendinning – Howard 2007:58-59) shown in Figure 12.

Activity: Signs and symptoms of mental diseases

OBJECTIVE: vocabulary acquisition concerning mental diseases, sorting out the signs and symptoms of mental diseases

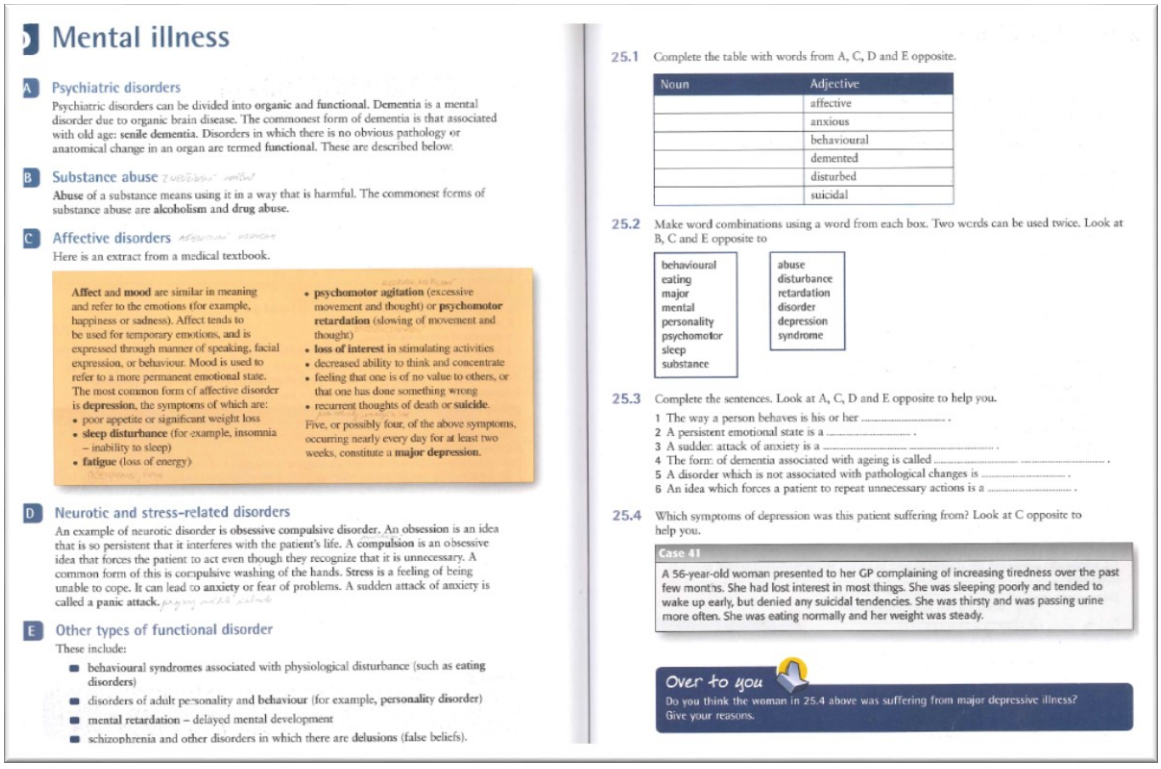
AIDS: handout

PROCEDURE: Students in groups discuss potential signs and symptom of Alzheimer's disease, major depression, multiple sclerosis, and OCD.

weakness in an arm or leg, gaining or losing weight, fear of being contaminated by germs, eating more or less than usual, sleeping too much or not enough, cleaning, feeling restless and unable to sit still, thinking problems, losing interest, order and symmetry, loss of balance, superstitions, excessive double-checking of things, doing senseless things to reduce anxiety, accumulating empty food containers, blurred or double vision, clumsiness or a lack of coordination, numbness, repeatedly checking in on loved ones, tingling, seeing black spots, feeling sad or hopeless

Alzheimer's disease	Major depression	Multiple sclerosis	OCD

Figure 11: Sample of a situation method concerning mental diseases



Mental illness

A Psychiatric disorders

Psychiatric disorders can be divided into **organic** and **functional**. Dementia is a mental disorder due to organic brain disease. The commonest form of dementia is that associated with old age: **senile dementia**. Disorders in which there is no obvious pathology or anatomical change in an organ are termed **functional**. These are described below.

B Substance abuse

Abuse of a substance means using it in a way that is harmful. The commonest forms of substance abuse are **alcoholism** and **drug abuse**.

C Affective disorders

Here is an extract from a medical textbook.

Affect and **mood** are similar in meaning and refer to the emotions (for example, happiness or sadness). Affect tends to be used for temporary emotions, and is expressed through manner of speaking, facial expression, or behaviour. Mood is used to refer to a more permanent emotional state. The most common form of affective disorder is **depression**, the symptoms of which are:

- poor appetite or significant weight loss
- **sleep disturbance** (for example, insomnia – inability to sleep)
- **fatigue** (loss of energy)
- **psychomotor agitation** (excessive movement and thought) or **psychomotor retardation** (slowing of movement and thought)
- **loss of interest** in stimulating activities
- decreased ability to think and concentrate
- feeling that one is of no value to others, or that one has done something wrong
- recurrent thoughts of death or **suicide**.

Five, or possibly four, of the above symptoms, occurring nearly every day for at least two weeks, constitute a **major depression**.

D Neurotic and stress-related disorders

An example of neurotic disorder is **obsessive compulsive disorder**. An **obsession** is an idea that is so persistent that it interferes with the patient's life. A **compulsion** is an obsessive idea that forces the patient to act even though they recognize that it is unnecessary. A common form of this is compulsive washing of the hands. **Stress** is a feeling of being unable to cope. It can lead to **anxiety** or fear of problems. A sudden attack of anxiety is called a **panic attack**.

E Other types of functional disorder

These include:

- behavioural syndromes associated with physiological disturbance (such as **eating disorders**)
- disorders of adult personality and **behaviour** (for example, **personality disorder**)
- **mental retardation** – delayed mental development
- schizophrenia and other disorders in which there are **delusions** (false beliefs).

25.1 Complete the table with words from A, C, D and E opposite.

Noun	Adjective
	affective
	anxious
	behavioural
	demented
	disturbed
	suicidal

25.2 Make word combinations using a word from each box. Two words can be used twice. Look at B, C and E opposite to

behavioural	abuse
eating	disturbance
major	retardation
mental	disorder
personality	depression
psychomotor	syndrome
sleep	
substance	

25.3 Complete the sentences. Look at A, C, D and E opposite to help you.

1 The way a person behaves is his or her .....
2 A persistent emotional state is a .....
3 A sudden attack of anxiety is a .....
4 The form of dementia associated with ageing is called .....
5 A disorder which is not associated with pathological changes is .....
6 An idea which forces a patient to repeat unnecessary actions is a .....

25.4 Which symptoms of depression was this patient suffering from? Look at C opposite to help you.

Case 41

A 56-year-old woman presented to her GP complaining of increasing tiredness over the past few months. She had lost interest in most things. She was sleeping poorly and tended to wake up early, but denied any suicidal tendencies. She was thirsty and was passing urine more often. She was eating normally and her weight was steady.

Over to you

Do you think the woman in 25.4 above was suffering from major depressive illness? Give your reasons.

Figure 12: Core study material Professional English in Use: Medicine (Glendinning – Howard 2007: 58-59) chapter 25 Mental illness

When comparing the provided examples of the activity *Signs and Symptoms* with the core study material, it becomes obvious how activating teaching methods can facilitate student acquisition of new material. Instead of monotonous exercises, students are encouraged to

collaborate actively rather than merely receive information. Such active learning stimulates the development of critical thinking and fosters responsibility for the work results.

3.2.3. Final phase - summary of new material

It might seem that the only phase in which activating methods are not appropriate is the final phase, in which new material is summarized. This phase focuses on the completion of the newly introduced material, a traditionally teacher-centred activity. However, activating methods can also be used at this phase. For instance, students can take turns making definitions of new words listed on the whiteboard as a vocabulary summary of the particular lesson.

Activity: Fractures

OBJECTIVE: vocabulary revision concerning types of fractures

AIDS: white board

PROCEDURE: Students in turns make definitions of fracture types as a vocabulary summary of the lesson dealing with locomotor system.

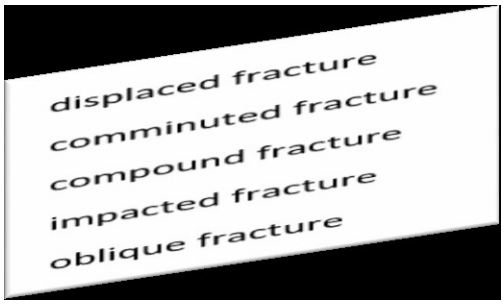


Figure 13: Sample of a situation method concerning revision of vocabulary concerning locomotor system

3.3. Organization of activating teaching methods

The previous sections outlined many advantages of activating methods that positively influence instruction and contribute to personality development. In terms of student personality development, activating methods influence critical thinking, character autonomy, responsibility, and creativity; they also support active learning. Instruction is enriched by dynamic elements as activation allows different types of interactions. Activating methods do away with the widely-used, traditional, teacher-fronted interaction where the teacher fully controls student responses. Activating methods enrich the instruction by pair and group work, thus making it possible to create a learner-centred learning environment. Pair and group work encourages students to collaborate, to share opinions or experiences, to solve problems together, to help each other, and to take responsibility for the results of joint work. These social aspects are the main advantages of group work (Maňák - Švec 2003: 137-151) and cooperative language learning (Kasíková 2016). In the following part we will briefly focus on the appropriate number of students per group and certain aspects of group distribution techniques, such as how to distribute student roles within groups (Kasíková 2016, Kasíková 2009). Unfortunately, the extent of this work does not allow the topic to be dealt with in more depth.

Having listed the many advantages of activating methods, it is worthwhile noting the disadvantages as well. One of the main disadvantages of activating methods is the demand on the teacher's time: detailed preparation of the material, thoroughly thinking through the organization of the methods, classroom time spent on the activity itself (Kotrba - Lacina 2011: 42), and a final summary in the form of feedback which cannot be omitted (Harmer 2013: 151). If the activation method is not well-prepared and the organization and implementation (including feedback) not well thought out, it can easily turn into a chaotic waste of precious time. This may be the reason some students are unwilling to participate in such activities.

Activating methods can "provide intense and meaningful practice of language … they must be regarded as central to a teacher's repertoire" (Wright – Betteridge – Buckley 1984: 1). Despite the proven advantages mentioned above, some students and teachers still tend to regard activating methods as a waste of time. Students refuse to get engaged into short activities to avoid being laughed at due to the perceived limits of their language knowledge

and for fear of being confronted about their medical knowledge. Another reason might be the task. Students may find it either too demanding or not stimulating enough, this in turn leads to boredom with (or rejection of) the activating method. The following chapter on activating methods will offer a deeper insight into this problem. Teachers tend to underestimate the preparation, as a result they waste precious time chaotically organizing students into pairs or groups or they use the activity arbitrarily as something 'up their sleeve,' even if it doesn't fit the learning objective. Consequently, activating methods can lack meaning and purpose and can cause chaos and confusion, thus rendering marginal what should be central to the teacher's classroom approach. Problems with the preparation, organization, and realization of activating methods are the main reasons teachers might struggle when implementing them. Only an activity which is properly designed can be a powerful tool for teachers to enhance active learning by providing opportunity for all classroom members and increasing the amount of student talking time. Elimination of barriers to effectiveness is therefore the main concern of this chapter: preparation, including level, interest, and aim; clear instructions; classroom interaction; and giving feedback.

3.3.1. Preparation

To start with, it is important to consider the amount of preparation in relation to the benefit the students will derive from the intended activity. In general, lesson planning should bear in mind the student's level, age, and interests. Students at the extreme ends of language level can experience frustration; for some the lesson can seem too demanding, for others too facile. As a consequence, students can lose interest, feel bored, or even aggressively reject participation in the lesson, including the activating method. Ur (2012: 45) suggests that the non-linguistic content of the activity should be a major factor. If a learner does not find the lesson sufficiently engaging and interesting, it can lead to "boredom, student inattention, low motivation and ultimately less learning".

The purpose of each short activity should be communicated clearly before employing an activating method in order to prevent an undesirable reluctance to participate. In this dissertation, the revision and practice of medical technical and semi-technical vocabulary are dealt with predominately. Such work proves beneficial in exposing students to

collocations, practicing pronunciation and structure, and storing collocations in the learner's active lexicon in order to support communicative competence.

3.3.2. Instructions

Providing that the activating methods are well chosen and carefully planned, adequate performance is the next issue to be addressed. Instructions can be the trigger of success or failure. Clear and brief instructions are a must as success or failure of an activity depends on clarity of instructions (Harmer 2013: 172, Scrivener 1994: 97, Ur 2012: 49). Regarding clear instructions, Ur (2012: 49) explains further conditions that the teacher should maintain, such as class attention, repetition, brevity, examples, and ensuring comprehension. Concerning student attention, instructions should be given before the learners are divided into pairs or groups and prior to handout distribution. Repetition means paraphrasing the instruction, using L1 if necessary. Brevity suggests that redundant, obvious or visible information should be omitted. Examples (visible demonstrations) are preferred to verbal explanations.

In addition to adequate instructions, choice of classroom interaction is also vital to ensuring success of the activating methods.

3.3.3. Classroom interaction

Teacher-student interaction in the form of 'IRF' (initiation response feedback) is regarded as traditional and the most common verbal interaction (Ur 2012: 18). The teacher asks a question and the student responds; the teacher gives feedback in the form of correction or assessment and initiates another exchange with another student. In this scenario, the teacher fully controls learner responses, thus making it the most teacher-centred form of classroom interaction. However, there are other forms that can be initiated via activating methods, namely pair and group work (Jankovcová – Průcha – Koudela 1988: 36-38). To some extent, group work was discussed in the chapter concerning the development of teaching methods such as cooperative language learning. Both Kotrba – Lacina (2011), in their publication on activating methods, and Ur (2012: 118-119) state that activating methods have the potential to increase student talking time dramatically. Kotrba - Lacina indicate an increase of STT from 10% (in the traditional 'IRF') to 90%. Ur states that "students in a class that is divided into five groups get five times as many opportunities to talk as in a full-class discussion" (Ur 2012:118-119). Interaction in pairs and groups seems

an excellent tool for maximizing student talking time. It is suitable for shy students as well, since such students are often reluctant to speak in front of an entire class. Harmer (2013: 244) suggests that pair work encourages student cooperation, which is itself important for the atmosphere of the class and for the motivation it gives to learning with others. The same applies to group work. Students co-operate rather than compete, and as a result a more enjoyable and dynamic atmosphere is created. Ur (2012: 233-224) suggests that group work fosters learner autonomy.

Pair and group work

Kasíková (2016: 79) points out that the main factors in determining group size are the type of task and its objective. She also suggests that groups should not be too large, ideally 3 to 4 members; bigger groups of 5-6 members end up splitting into smaller subgroups or one member ceases to participate in the task. Harmer (2013: 165) finds groups of 5 appropriate and states that "small groups around 5 students provoke greater involvement and participation than larger groups". The actual assigning of students into groups can be done by the students themselves, by the teacher, or randomly. Once again, it is important to follow the objective and take heed of the social relationships within the class. At times it is important to have groups of friends together. At other times the teacher's interference in the group selection process is essential in order to engage shy students and to keep more dominant students in check. It is also important to bear in mind if the assignment into groups is for short-term or long-term cooperation. For short-term cooperation the most suitable assignment into groups is done by randomization. Kasíková (2016: 78) suggests many techniques for randomization: counting 1-2-3-1-2-3, finding cards with the same symbol, cut sentences, etc. Assigning students into groups is closely related to assigning roles within the group. It might happen that sharing work within groups does not bring the desired effect. Some members work as hard as usual; some tend to avoid the work as usual. In cases such as these group work would not bring its members any new stimulus for learning. It is the teacher's responsibility to help every student discover the scope of roles that group work offers, key roles such as coordinator, information worker, secretary, or evaluator. Other possible roles are reporter, controller, or contact person (Kasíková 2009: 122, Kasíková 2012: 83).

Pair and group work drawbacks

The disadvantages of pair and group work might be the temptation to slip into L1 usage, no engagement in the task at all, or silence. Another frequent fear is how much learning is actually going on despite students being engaged in the task. More advanced students are reluctant to work with weaker students as more advance students cannot see any progress and vice versa. The learning styles of the individual members within a group must also be kept in mind. However, as Ur (2016: 235) points out, using L1 need not always be viewed as negative. In many cases some L1 usage, if not overused, can help students perform the given task more effectively.

3.3.4. Feedback

Student reluctance towards participation in activating methods might be due to a lack of feedback. Harmer (2013: 151) says that "feedback that a teacher gives in such activities is seen as vitally important." Feedback is divided by Ur (2016: 50) into two components: assessment, which refers to how well or badly the activity went, and correction, which is specific information on aspects of student performance. Needless to say, correction of mistakes must not include every mistake made during the activity. Of importance also is highlighting the positive elements, such as when a student uses well-constructed sentences and phrases or implements the target vocabulary. Except for what is assessed, teachers should also be tactful. Important features of giving feedback are using an encouraging tone of voice and tactfully correcting student mistakes.

3.4. Activating teaching methods and vocabulary acquisition

Vocabulary acquisition is an important factor in language teaching. In this chapter, we will pay attention to what vocabulary needs to be acquired based on the results of word frequency studies. The form, meaning, and use of vocabulary will also be discussed. Lastly, we will look at how to teach vocabulary.

3.4.1. What vocabulary to teach

English is known for its impressively large lexicon. Research on native speakers' vocabulary seems to suggest that L2 students have to possess a considerable word stock in order to use the second language. However, these studies tend to view all words as equal in value (Nation 2007: 9). ESP students are tasked with specialized demands in terms of vocabulary they are asked to acquire (Coxhead 2015: 116). Regarding EMP, medicine is well known for its large corpus of technical or specialized terms, mostly borrowed from Greek and Latin (Ferguson 2015: 253).

Frequency based studies show that a word's value is linked to how often it is used. Therefore, four kinds of vocabulary can be distinguished: high-frequency words, academic words, technical words, and low frequency words (Nation 2014: 11-12). High frequency words are those which "cover a very large proportion of the running words in spoken and written texts and occur in all kinds of uses of the language" (Nation 2014: 16). As such, high frequency words warrant a considerable amount of classroom time. Specialized vocabulary is described as high-frequency words for special purposes, such as specific terms for speaking, for reading academic texts, for reading newspaper, technical vocabularies, etc. ESP, specifically EMP, involves acquisition of technical vocabulary. We will address this in more detail.

Technical vocabulary

ESP vocabulary can be referred to in a number of ways: special purpose vocabulary, specialized vocabulary, technical, or sub-technical vocabulary (Coxhead 2015: 115-116). Coxhead characterizes ESP vocabulary as vocabulary of a particular subject area at university or vocabulary specific to a professional discipline (2015: 115-116). Dudley-Evans – St John (2012: 80-83) distinguish technical vocabulary from semi-technical vocabulary. They argue that teaching technical vocabulary is not the responsibility of the EAP teacher and that classroom priority should be given to semi-technical vocabulary or core vocabulary. They characterize semi-technical or core vocabulary as "vocabulary that is used in general language but has a

higher frequencies of occurrence in scientific and technical description and discussion; and vocabulary that has specialized and restricted meanings in certain disciplines" (2012: 82-83). Nation (2007: 198) characterizes technical vocabulary as words recognizably specific to a particular topic, subject, field, or discipline. He gives four degrees of 'technicalness', enabling a wide range of words to be included, from the most technical to the least. Concerning EMP, words such as '*dullness'* (translated as '*ztemnění'*), which describes a quality of sound elicited by percussion, might be considered highly technical and thus would belong to Category 1. In contrast, an item such as '*phlegm'* (translated as '*hlen'*), which describes mucus secretion in the respiratory tract, would be viewed as less and belong to Category 4. Such categorization seems to cover the technical and semi-technical vocabulary distinction made by Dudley-Evans – St John. To sum up, medical students must acquire high frequency words, academic vocabulary, and technical vocabulary in addition to being able to deal with low-frequency words. Having explained what vocabulary needs to be included, we will now turn to what it means for a student to have acquired a word, i.e. form, meaning, and use.

3.4.2. Receptive and productive distinction

What does it mean to know a word? Firstly, it must be clarified if the word is needed for receptive or productive use (Nation 2007: 24-33). Dudley-Evans – St John (2012: 83) define ESP vocabulary according to its purpose: the vocabulary needed for comprehension and vocabulary needed for production. Some linguists use the terms *active* and *passive* vocabulary (Corson 1995 in Nation 2007: 25). However, due to its more elaborate nature, we will use the receptive/productive distinction set out by Nation (2007: 24-33). Receptive use of language is a two-step process: language input via listening and/or reading followed by comprehension. To use a vocabulary item receptively is to perceive its form (through listening/reading) and retrieve its meaning. Productive use involves formulating language (through speaking or writing) in order to convey messages to others. See Figure 14 for better illustration.

Form	spoken	R	What does the word sound like?
		P	How is the word pronounced?
	written	R	What does the word look like?
		P	How is the word written and spelled?
	word parts	R	What parts are recognizable in this word?
		P	What words parts are needed to express meaning?
Meaning	form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	concepts and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	associations	R	What others words does this word make us think of?
		P	What other words could we use instead of this one?
Use	grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	collocations	R	What words or types of word occur with this one?
		P	What words or types of words must we use with this one?
	constraints on use	R	Where, when and how often would we meet this word?
		P	Where, when and how often can we use this word?

Figure 14: Components of vocabulary knowledge by Nation (2001)

In general, knowing a word means to acquire its form, meaning, and use, which is precisely what activating teaching methods can provide language learners. The activity *Describe and Guess* can serve as an example. This pair-work activity is based on descriptions of medical terminology covered in previous classes. Students take turns describing words on randomly selected cards. Take the vocabulary item '*discharge'*. Student A draws a card with this item and must recognize the written form and its constituent parts *'dis-charge'*. The student must then decide on the meaning and select a context for its usage, i.e. *'discharge from hospital'*, *'vaginal discharge', etc.* In order to describe the item, the student must choose typical collocations such as *'discharge from hospital'*, *'discharge a patient' or 'discharge to homecare'*, as well as potential synonyms ('*release'*) and antonyms ('*admit to hospital'*). So far, the student has engaged in receptive knowledge only. Now occurs the shift to productive knowledge. Student A must express the meaning '*discharge'*, e.g. '*to release a patient from a hospital*', and then provide different contexts, synonyms, or antonyms if the word is not understood. Student A must also produce typical collocations. Student B is not only a passive

recipient but must figure out the expressed meaning (receptive use), including the particular context, synonyms, antonyms, or collocations (receptive). He or she must retrieve the particular word (receptive) and pronounce the word correctly, including stress (productive). Student A must recognize the word (receptive) and, if correct, show the written form on the card to student B (receptive). As students take turns, they both have an equal chance to receive and produce the target language. We should value activating teaching methods highly for providing such opportunity for practicing productive learning.

Knowing a word means to acquire its form, meaning, and use. Regarding form, Nation (2007) suggests paying attention to the spoken and written form and the word parts, with the linking of form and meaning vital for acquiring new vocabulary items. Concepts, referents, and associations are the areas needed in order to acquire meaning. With respect to use, Nation includes grammatical functions, collocations, and constraints on use. Ur pays attention to grammar, collocations, connotations, appropriateness, and semantic links (2012: 4-6). Coxhead further suggests (2015: 123) including metaphors as an example of specialized vocabulary. Ferguson (2015: 245) includes euphemisms as a factor to be considered within the field of EMP. Dudley-Evans – St John (2012: 84-87) include situational, semantic and metaphor sets, collocations and the use of corpora, and lexical phrases.

Form - spoken form, written form and word parts

Recognizing the word when it is heard and then being able to pronounce it refers to the spoken form. The 'pronounceability' of a particular word depends on the similarity between individual sounds and suprasegmental features in the L1 and L2. The knowledge of other languages is also important. Similarities between L2 vocabulary items and L1 (or other known languages) may either facilitate or hinder the learning process. Medical students with a knowledge of Latin often face difficulties pronouncing words of Greek or Latin origin. Items with the word-forming element '*-itis'* cause pronunciation problems due to the influence of Greco-Latin pronunciation. '*Gastritis'* would be [gæˈstraɪtɪs] in English, whereas the original Greco-Latin would be [gastri:tis]. Other examples include words beginning with *pn-*, *ps-*, *pt-*, where p is never pronounced in English ('*pneumonia'* [njuːˈməʊniə], '*psychiatry'* [saɪˈkaɪətri]). Another typical mispronunciation is Greek '*ch*'. Students tend to pronounce this segment [x] instead of English [k] ('*cholera'* [ˈkɒlərə]).

To understand the written form of a word is to recognize the word when seeing it, including knowing how to spell it. As with spoken forms, the amount of effort required to learn the particular item involves the interplay of L1 and L2, the regularity of the L2 system, and student knowledge of L2 spoken form vocabulary. As for word parts, any affixes and stems already familiar to students make vocabulary learning easier (Nation 2007: 40-47).

Meaning – connecting the form and meaning, concepts, and associations

It is important to connect the form of a particular word and its meaning. Students must be given repeated opportunities to retrieve forms and meanings as retrievals strengthen the link between the two. The more links students are able to make, the more successful the language acquisition. Words are not isolated; they fit into many interlocking systems and levels (Nation 2007: 23). Students have to deal with homonyms, homophones, homographs, etc. There are semantic relations between synonyms, antonyms, hypernyms, hyponyms, and meronyms. In EMP, many terms (such as '*stomach'*, '*abdomen'*, '*tummy'*, or '*belly')* have multiple synonyms and thus require the student to learn the context-based appropriateness of such items.

Use – collocations, metaphors, and euphemisms

Words form multi-word lexical units, or 'chunks' (Harmer 2013: 229; Howatt – Widdowson 2014: 249; Nattinger – DeCarrico 1992 qtd. in Dudley-Evans – St John 2012: 86; Schmitt – McCarthy 2009: 177-178, Ur 2012: 3). These chunks include collocations, metaphors, and euphemisms.

Collocations are described as sequences of words which occur together and convey specific meaning (Nation 2007: 317), or as the company that a word keeps (Dudley-Evans – St John 2012:85). Let us consider the word '*heart'* in EMP as an example. Typical surrounding words might be '*heart rate'*, '*heart rhythm'*, '*heart beat'*, '*heart attack'*, '*heart failure'*, 'the *heart pumps blood', etc.* It is with the aid of such memorized sequences (collocations) that fluency in language becomes possible (Pawley – Syder 1983 qtd. in Nation 2007: 56). New constructs do not have to be processed each time we need to say something.

Metaphors and euphemism must be added for EMP. Metaphors are used when participants find certain areas of expression to be problematic (Coxhead 2015: 123-125), when vocabulary gaps exist, or when the need for novel expression arises (Ferguson 2015: 245). A patient might not comprehend '*the chambered muscular organ controls the blood flow in the pulmonary and the systemic circuits*'. However, *'the heart is a pump'* would be understandable for everyone.

Euphemisms are also widely used to avoid direct reference to distressing, embarrassing, or taboo subjects (Ferguson 2015: 245) and are related to use constraints. When a doctor is informing members of a family about the death of a loved one, the euphemism '*pass away*' would be more appropriate that '*die*'. Moreover, it is important to differentiate the language used among medical professionals with that used when doctors speak to patients. Students have to acquire both the technical vocabulary, such as '*acute cerebrovascular event',* but also the lay terms necessary for dealing directly with patients, such as '*stroke*'.

3.4.3. How to teach vocabulary

When teaching vocabulary, there are three important general processes leading to word acquisition. Firstly, students must be given enough opportunities to notice the word. Secondly, they must retrieve it. Finally, they must acquire the ability to generate the word (Nation 2007: 63-72). Regarding vocabulary growth through reading, Laufer (2003, 568-574) notes several assumptions in accordance with Nation's processes: the noticing assumption, the guessing ability assumption, the guessing-retention link assumption, and the cumulative gain assumption.

Noticing

Noticing means to give attention to an item, and certain factors might influence this process: salience of the item, previous contact, and the learner's acknowledgment that the item fills a certain gap in language knowledge (Schmidt – Frota 1986 in Nation 2007: 63). Noticing is realized by looking up a word in a dictionary, deliberately studying it, guessing it from context, hearing it explained, etc.

Retrieval

If the word is noticed and the meaning understood, the student might retain it (Laufer 2003: 569) and then be able to retrieve it. The retrieval can be receptive (perceiving the form, retrieving its meaning when the word is met in listening or reading) and/or productive (communicating the meaning of the word and retrieving its spoken or written form). The importance of repetition has been shown in many studies. Ur states that students need to re-encounter a new item several times in order to remember it permanently (2012: 69). Regarding the typical number of repetitions necessary for vocabulary acquisition, Kachroo (1962) and Crothers – Suppes (1967) suggested words be repeated 6 or 7 times (in Nation

2007: 81). Horst – Cobb – Meara (1998) suggest 8 exposures, while Saragi – Nation – Meister (1978) suggest 12 (in Laufer 2003: 569). Tinkham (1993) found that learners differ greatly and most acquire a word with 5-7 repetitions; some, however, may need up to 20 repetitions or more (in Nation 2007: 81). Another factor to consider when discussing vocabulary repetition is the timing of when the learner re-encounters the word. If too much time passes, the word will be forgotten and the re-encounter will be processed as a first encounter. Clearly, repetition is an extremely important factor in vocabulary acquisition and teachers need to provide systematic and cumulative vocabulary review activities in the classroom.

Creative or generative use

The last important process in remembering the word effectively is generation, i.e. encountering and using a word in its various shades of meanings. For example, the word '*discharge'*, previously met in the context '*discharge from hospital'*, can now be met in new contexts such as '*discharge from vagina'*, '*discharge from ear', etc*. This novel encounter of an already acquired word encourages students to reconceptualise their knowledge, thus helping establish the memory of the particular word. Generation may be applied to a range of variations, such as inflection, collocation, grammatical context, reference, and meaning. Generation can be receptive (when a word is met in a new way in listening and reading) or productive (when produced in new contexts in speaking and writing).

3.4.4. What vocabulary activities to include in the instruction

Students should be given enough opportunities to encounter important words, re-encounter them, and use them generatively. The importance of repetition has been outlined. However, some students experience learning as a chore because they find themselves asked to do again and again what they think they have already mastered (Morgan – Rinvolucri 2004: 6). Activities included within the instruction should offer students an experience that is to some extent new and fresh with elements of surprise. Interest is a very important factor determining the efficacy of learning. If students are given an interesting activity, material, or exercise, they are engaged in a 'flow' activity and are completely absorbed in the experience. Their concentration then becomes natural, not forced, making them feel optimally busy and experiencing the moment entirely (Csikeszenthmihalyi 2017: 48). Ur (2012: 16) emphasizes the importance of setting clear objectives and meaningful targets, sharing pedagogical aims, using visual materials, designing tasks that are open ended, implementing game-like

strategies, prioritising higher-order thinking skills (sharing opinions, comparing), and making sure all students participate in the activity. Morgan – Rinvolucri (2004: 6-7) add that language learning is a social process rather than a solitary one. Students expand their understanding of word meaning by interchanging and sharing items with others.

Activating teaching methods are a perfect tool to ensure all the above-mentioned necessities. As for retrieval and generative use, activating teaching methods provide numerous opportunities to re-encounter and use the target vocabulary. By slightly modifying rules, teachers can transform a vocabulary review activity into a new one featuring elements of surprise (e.g. Describe and Guess I, Describe and Guess II, Describe and Swap, Words and Definitions, Noughts and Crosses). Game-like strategies can attract interest, which in turn changes seemingly uninteresting exercises into 'flow' activities and learning that is more efficient. Language learning being a social process, activating teaching methods are usually organized in pairs or groups, salient examples of social interaction.

3.5. Activating teaching methods and motivation

The increase in motivation in connection with activating teaching methods has been mentioned in many sources (Hrabal - Man - Pavelková 1989, Hrabal - Pavelková 2010, Kotrba - Lacina 2011, Mareš 2013, Petty 2008, Sitná 2009). Mareš (2013) defines motivation as a set of internal and external factors that influence the behaviour of individuals in relation to their needs. An internal factor may be the endeavour to learn something new or to do an enjoyable activity. An external factor is usually one's surroundings, which both encourage an individual's activity and evaluate the performance.

The American psychologist Maslow (1979) created a distinction between basic and development needs. Basic/deficient needs are those such as biological needs, the need for security and safety, the need for love and belonging, and the need for self-esteem. Development needs include the need for knowledge and understanding, aesthetic needs, the need for self-actualization, and the need to develop personality. Higher level (development) needs only emerge when basic needs are satisfied. The hierarchy of needs is displayed in Figure 15.

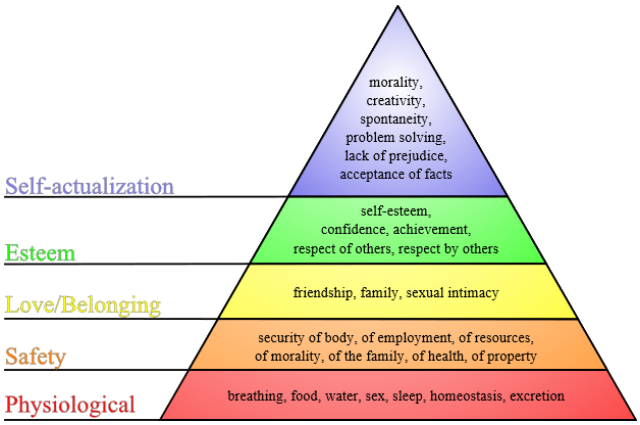


Figure 15: Maslow's hierarchy of needs

With the development of psychology, Maslow's hierarchy of needs has been extended by other typologies. For pedagogical use, there are several important needs: cognitive ones - students feel the need to acquire new knowledge and solve problems; social needs - the need to belong and not feel rejected, the need to have a certain influence, the need to cooperate with others; performance needs – the need to be considered competent and knowledgeable and the need to avoid failure; and the need for self-determination - students themselves determine what they want to achieve (Mareš 2013: 251-256). Hrabal - Pavelková (2010) add

the needs of responsibility - compliance with moral standards and the feeling of being responsible for one's actions and any consequences thereof.

Knowledge concerning need fulfilment will help elucidate student behaviour. If frustration on the part of some students occurs, whether related to biological needs, psychological needs (irony or sarcasm from the others), or performance needs (inadequate demands on students), students experience feelings of unsatisfied tension leading to consequent inefficient work (Hrabal - Pavelková 2010).

It is necessary to bear in mind that motivation is not a static, invariable phenomenon. On the contrary, it can be influenced and altered both by the students themselves as well as those around them, including teachers (Mareš 2013: 252). However, influencing motivation can be of a dual nature. The teacher can reinforce and develop the motivation positively, or conversely reduce it (Mareš 2013: 288).

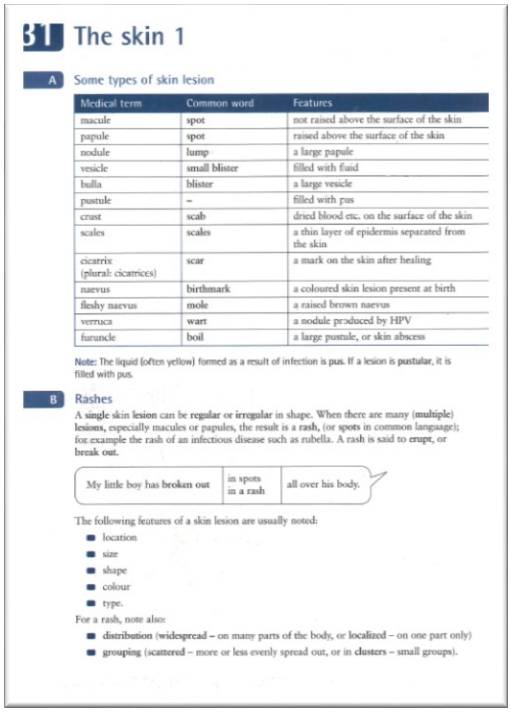
When looking at motivation in the pedagogical context, it is necessary to observe the motivation of students to learn as well as the motivation in connection with interesting activities.

In order to learn effectively, students must be motivated. According to Sitná (2009: 18), the motivation to learn stems from the student's internal justification of the need to learn. Dudley-Evans - St. John (2012: 10) suggest students in ESP courses are highly motivated to learn compared to EGP students due to the awareness of their needs. ESP students know the precise purpose of their learning. The teacher necessarily needs to encourage students so that they want to learn and to strengthen various types of motivation leading to student need fulfilment. These include cognitive, social, and performance needs as well as the needs for responsibility and self-determination.

Sitná (2009: 18-24) and Petty (2008: 40-66) divide the motivation to learn into the following types: usefulness of acquired knowledge and its practicality, the need to complete education, and strengthening self-confidence.

3.5.1. Usefulness of acquired knowledge and its practicality

The usefulness of acquired knowledge and its practicality is a type of a short-term motivation based on the assumption that learning useful information can please students. Students consequently evaluate the learning process highly and motivation to learn is positively stimulated. Unfortunately, some students can regard certain material included within curriculum as minimally practical. The same applies for Medical English taught at the Charles University Faculty of Medicine in Hradec Králové. The course of Medical English I and II might seem marginal for some medical students and its curriculum viewed as less useful. The subjects of theoretical, preclinical, and clinical disciplines have a natural priority. Using the potential of activating teaching methods, the subject of Medical English can be considered more practical by students if an interdisciplinary relation between English, Latin, and medical disciplines can be established. In such a case, the students might have a greater appreciation for the subject of Medical English in that the subject is not merely an isolated language course but is in fact directly connected to the other medical subjects as well as to the field of medicine as a whole. Figures 16 and 17 offer a comparison of a specific topic from the core study material and altered interdisciplinary material serving to bring English, Latin, and medical disciplines together.



31 The skin 1

A Some types of skin lesion

Medical term	Common word	Features
macule	spot	not raised above the surface of the skin
papule	spot	raised above the surface of the skin
nodule	lump	a large papule
vesicle	small blister	filled with fluid
bulla	blister	a large vesicle
pustule	–	filled with pus
crust	scab	dried blood etc. on the surface of the skin
scales	scales	a thin layer of epidermis separated from the skin
cicatrix (plural: cicatrices)	scar	a mark on the skin after healing
naevus	birthmark	a coloured skin lesion present at birth
fleshy naevus	mole	a raised brown naevus
verruca	wart	a nodule produced by HPV
furuncle	boil	a large pustule, or skin abscess

Note: The liquid (often yellow) formed as a result of infection is **pus**. If a lesion is **pustular**, it is filled with pus.

B Rashes

A **single** skin **lesion** can be **regular** or **irregular** in shape. When there are many (**multiple**) **lesions**, especially macules or papules, the result is a **rash**, (or **spots** in common language); for example the rash of an infectious disease such as rubella. A rash is said to **erupt**, or **break out**.

My little boy has **broken out** | in spots / in a rash | all over his body.

The following features of a skin lesion are usually noted:

- location
- size
- shape
- colour
- type.

For a rash, note also:

- **distribution** (**widespread** – on many parts of the body, or **localized** – on one part only)
- **grouping** (**scattered** – more or less evenly spread out, or in **clusters** – small groups).

Figure 16: Topic from core book Professional English in Use (Glendenning – Howard 2007: 70-73) concerning skin lesions

Figure 17: Topic from altered interdisciplinary material concerning skin lesions in a form of situation method

From the examples, it is obvious that the altered material using the situation method has the potential to engage the student more than a simple text. Not only do the students gain the knowledge of appropriate vocabulary concerning skin lesions more effectively by guessing and matching what lesions belong to what picture, they also refresh their Latin knowledge and learn about dermatology by means of the visual material.

3.5.2. The need to complete education

This long-term motivation is characteristic for ambitious and hardworking individuals (Petty, 2008: 40-41). It is typical for the tertiary sphere, for medical students in particular. Students are aware of the fact that attaining a degree in medicine demands profound preparation in numerous areas of study. Again, medical subjects are given the priority; peripheral subjects such as Medical English are at a disadvantage in this regard.

3.5.3. Strengthening self-confidence

Strengthening self-confidence may be the strongest motivation factor for many students. Self-confidence is enhanced if students experience success in learning - an everyday type of success which they themselves can see. Along with this success come pleasant feelings,

increased interest, and a resolve to do just as well or better the next time. Moreover, such success brings appreciation from others (Sitná 2009: 20-21, Petty 2008: 41). Conversely, if students do not master the task, their failure is likewise visible, both to themselves and others. This in turn creates a negative self-evaluation with diminished motivation and self-confidence. Self-confidence is closely related to self-esteem and can be characterized as a belief in personal abilities, value, and influence (Mareš 2013: 274-276). The classroom environment is often fraught with the potential for embarrassment, for example when having to answer a teacher's question out loud or being asked to perform a task in front of the whole class. Certain individuals can find such circumstances difficult to deal with, and poor performances in these situations have negative consequences. Firstly, the students are disappointed in themselves for their perceived failure and are forced to admit that their knowledge is inadequate. Secondly, they feel they will now be seen as less in the eyes of others, so their perceived standing among peers is lowered.

3.5.4. The need for appreciation and praise versus fear of failure

The need for appreciation and praise is closely related to student self-confidence. Success in learning brings appreciation from teachers, parents, and other students and has an overall positive influence, not only on learning. On the contrary, fear of failure and subsequent rejection by other students and teachers may deepen the fear of rejection. Students lose influence and a certain need to dominate (Hrabal - Pavelková 2010: 156). To a certain extent, fear of failure can help. It can motivate university students to study hard and do their utmost on final exams and tests. However, more frequently, such fear entices students to shift the responsibility for passing the test onto the tests/exams themselves and the academic surroundings. If a student fails an exam or test, it is then not perceived as the student's fault but rather the fault of the questions, or the teacher, or the subject itself, etc. This fear of failure also appears in activating teaching methods and can present as reluctance to participate and criticism of the activity as unnecessary or a waste of time even before it has begun. Medical students are particularly worried about any perceived failure in regards to medical knowledge. Fear of incompetence may be the reason students reluctantly form pairs or groups and are unwilling to present their skills and competencies to others.

3.5.5. Interest and joy from learning

Learning can satisfy one's natural desire for knowledge, and interesting learning is entertaining learning. If students do not find English interesting, then it should follow that they will not find it entertaining. However, Petty (2008: 41) states that even if students are taking a subject they do not find interesting, they can nonetheless enjoy the classroom activities. Activating teaching methods can provide the source for these entertaining activities and thereby enrich the curriculum and even awaken an interest in the subject hitherto absent in the student, all of which will be addressed in the next paragraph.

3.5.6. Motivation and interesting activity versus motivation and boredom

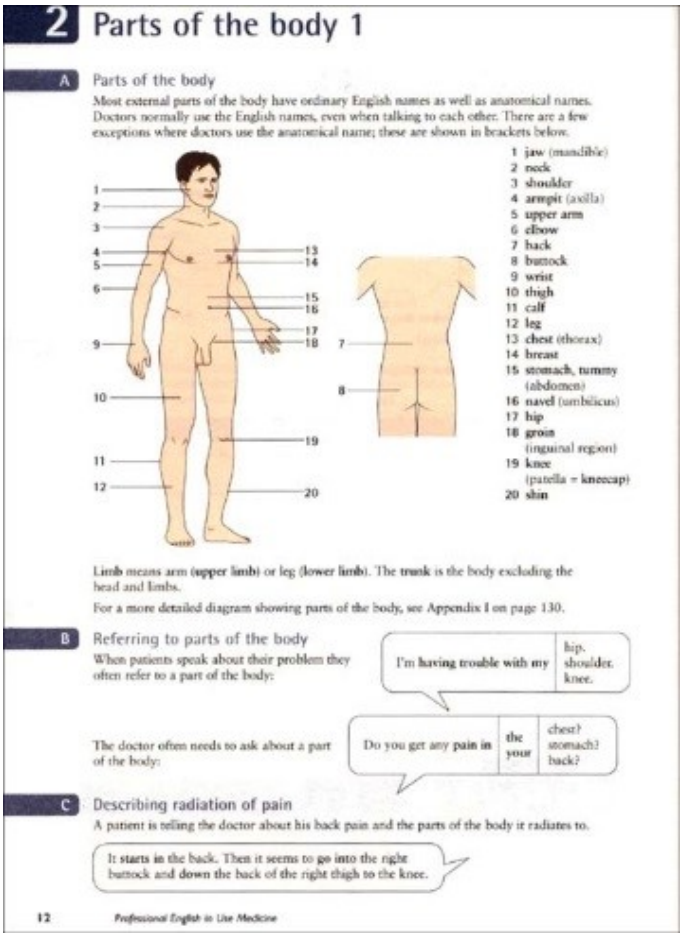
When engaging in an enjoyable activity, individuals experience pleasant feelings and are completely absorbed in the activity. They do not find it difficult or confusing nor do they feel forced to do it (Mareš 2013: 271-276) - what needs to be done and how it needs to be done has become clear. Individuals thus engaged feel optimally busy, concentrate naturally, forget about time, and experience the moment wholly, as if they were one with the activity. This is an experience of 'flow' (Csiksezentmihalyi 2017: 48) characterized as a mental state of complete absorption in the current experience when the person is involved in a voluntary worthwhile activity. It could be said that "flow" activities correspond with the interests of the particular individual, whether it be a sporting activity, cultural activity, computer game, or foreign language learning. According to Nakonečný (2009: 661), if an individual is interested, the attention is permanent and active; he or she is willing to sacrifice things such as time or finance. The activity is satisfying in itself and need not confer any material benefits. In addition, such satisfaction intensifies motivation urgency - the more an individual engages in it, the more successful he or she is, and the greater desire there is to perform it.

University students do not have the privilege of taking only those subjects which they find interesting and engaging. Many subjects are required regardless the level of student interest. When students participate in activities which they do not find absorbing, it results in an unpleasant experience and negative feelings. They have to force themselves, their effort seems inadequate, time crawls, and concentration levels are reduced. Such individuals are either inactive or, on the contrary, express themselves by inappropriate or aggressive behaviour (Mareš 2013: 282, Hrabal - Pavelková 2010: 162). Boredom deactivates learning motivation and its duration is dependent on the situation (situational boredom) and on the

particular individual (existential boredom). Hrabal – Pavelková (2010: 163) report that the main sources of boredom include monotony of the teaching lessons and the subjective uselessness of the subject. Mareš (2013: 283) states that boredom generally results from the following particularities: the subject studied, the subject syllabus, the learning tasks, the general activity required from students, the teacher, the psychosocial climate of the class, and the school environment.

In relation to activating methods, attention is paid to the boredom caused by the particularities of the learning tasks and the particularities of the activity required from the students. Concerning learning tasks, there are attractive tasks that students perform with enthusiasm and interest and there are tasks that are very unattractive to students and thus demotivating. Demand seems to be another possible source of boredom. There are tasks of adequate difficulty that stimulate students and tasks that are too difficult or easy and therefore discouraging. If the relationship between the student's level of knowledge and the level of the teacher's requirements is unbalanced, the selected assignments regarded by the teacher as adequate may seem either too difficult or too easy. Another issue to consider is monotony, whereby tasks that are constantly repeated with little variation become tedious to students. Monotony causes attenuation, a condition of reduced activation leading to sleepiness, fatigue, and decreased performance .

Tasks that at first may appear uninteresting can nonetheless be transformed so that student interest is stimulated, concentration increased, and an overall positive experience is had. Flow activities can be very stimulating, i.e. activities where students are completely absorbed in a worthwhile enjoyable task. This transformation can be conducted with the help of activating methods, as seen in Figures 18 and 19. The first figure presents the topic of body parts from the core study material *Professional English in Use: Medicine* (Glendinning – Howard 2007: 12). The second figure presents the same content but with the help of activating teaching methods.



2 Parts of the body 1

A Parts of the body

Most external parts of the body have ordinary English names as well as anatomical names. Doctors normally use the English names, even when talking to each other. There are a few exceptions where doctors use the anatomical name; these are shown in brackets below.

1 jaw (mandible)
2 neck
3 shoulder
4 armpit (axilla)
5 upper arm
6 elbow
7 back
8 buttock
9 wrist
10 thigh
11 calf
12 leg
13 chest (thorax)
14 breast
15 stomach, tummy (abdomen)
16 navel (umbilicus)
17 hip
18 groin (inguinal region)
19 knee (patella = kneecap)
20 shin

Limb means arm (**upper limb**) or leg (**lower limb**). The **trunk** is the body excluding the head and limbs.

For a more detailed diagram showing parts of the body, see Appendix I on page 130.

B Referring to parts of the body

When patients speak about their problem they often refer to a part of the body:

I'm **having trouble with my** | hip, shoulder, knee.

The doctor often needs to ask about a part of the body:

Do you get **any pain in** | the / your | chest? stomach? back?

C Describing radiation of pain

A patient is telling the doctor about his back pain and the parts of the body it radiates to.

It **starts in** the back. Then it seems to **go into** the right buttock and **down** the back of the right thigh to the knee.

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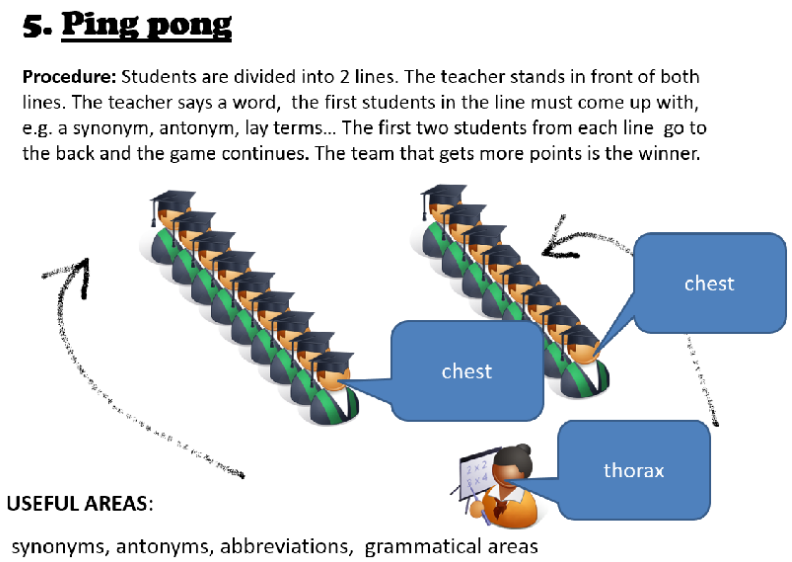
Figure 18: A sample of a task from the core study material practicing vocabulary concerning body parts



5. Ping pong

Procedure: Students are divided into 2 lines. The teacher stands in front of both lines. The teacher says a word, the first students in the line must come up with, e.g. a synonym, antonym, lay terms... The first two students from each line go to the back and the game continues. The team that gets more points is the winner.

chest

chest

thorax

USEFUL AREAS:

synonyms, antonyms, abbreviations, grammatical areas

Figure 19: A sample of an activity Ping Pong for vocabulary practice concerning body parts

The examples demonstrate that the professional vocabulary does not necessarily have to be practiced through monotonous tasks from the core material. With some minor changes it can be transformed into a 'flow' activity which students will find absorbing and enjoyable. In

addition, enriching game elements can have therapeutic effects and help to create a friendly atmosphere in which students feel comfortable and unconcerned about potential failure.

3.6. Conclusion

This theoretical overview has offered insights into activating teaching methods from different angles. The typology of activating teaching methods has been included according to the thematic classification dividing these methods into problem solving, didactic games, discussions, and situation methods. Particular attention has been paid to concrete examples of all types of activating teaching methods implemented in the Medical English instruction to third year General Medicine students at the Charles University – Faculty of Medicine in Hradec Králové.

It has been suggested that activating teaching methods can be used in any phase of the lesson: in the initial phase during which previous lesson content is revised; in the phase of exposure and consolidation of new material; and finally, during the summary phase as well. These methods require the active participation and collaboration of students. This influences and develops critical thinking, responsibility, and creativity. Other advantages include turning static instruction dynamic and using different types of interaction; this leads to a friendly atmosphere. On the contrary, some disadvantages include the time demands for the teacher in terms of preparing the material and organizing the activity and the time needed to carry out the activity itself. Ways to eliminate these disadvantages, such as aspects of preparation, giving instructions, and feedback, have been introduced.

Another part of this chapter focuses on vocabulary acquisition. Attention is paid to the amount of vocabulary desirable in EMP classes, how to teach it, and what activities to include within instruction. It has been suggested that medical students are required to gain a large amount of high-frequency words and an extensive corpus of technical terms. To acquire a word means to attain its form (spoken and written, and word parts) and meaning (connecting the form and meaning, concepts, and associations) and be able to use it (collocations, metaphors, and euphemisms) both receptively and productively. Students must be given ample opportunity to notice words, retrieve them, use them generatively, and re-encounter them repetitively. In EMP, technical terms contain numerous collocations whose form, meaning, and use must be acquired precisely, such as ‘friction rub’ (třecí šelest), ‘cardiac output’ (srdeční minutový objem), ‘dull note’ (ztemělá ozva)’. Repetition is key here, with students generally needing several exposures to the terms before acquiring them. However, repetition might also cause boredom and lead to inefficient learning. The great benefit of activating teaching methods is

that they allow students to focus on the form, meaning, and use of target vocabulary in various ways. This variability further serves to rid lessons of the boredom factor since students find 'flow' activities stimulating. Another factor worth mentioning has been the increase in student motivation when activating teaching methods are included within the instruction. Activating teaching methods have the ability to make the monotonous interesting, thereby creating a classroom atmosphere of fun and enjoyment in which students lose their inhibitions and their fear of making a mistake. Better performance means increased self-confidence and a better reception by others.

4. Methodology

4.1. Background of the empirical research

4.1.1. Language education at Charles University – Faculty of Medicine in Hradec Králové

The Charles University – Faculty of Medicine in Hradec Králové provides language education to students in bachelor's degree programs in the field of nursing, master's degree programs in general medicine and dentistry, and doctoral programs in various fields of science and medicine. EU language policy seeks to establish a citizenry proficient in three community languages (European Union 2005: 47), i.e. one's native language and two foreign languages. Accordingly, the Department of Languages at Charles University – Faculty of Medicine in Hradec Králové provides language education in two languages: Latin Terminology and Medical English in the Czech program, and Latin Terminology and Czech in the English program. This dissertation deals with the Czech master's degree program of General Medicine in which students are required to study English for Medical Purposes (EMP). The aim of such language study is to equip future professionals with communicative knowledge in a specialized field of English, i.e. to provide students with technical and semi-technical vocabulary and an appropriate usage register in order that they may develop communicative competence required for their future work in the field of medicine, including doctor-patient communication. The course is instructed by a Czech teacher and a native speaker. Both instructors have a degree in linguistics, i.e. they do not have a university degree in medicine. Such situations are common in the field of ESP. However, the instructors at our department have adequate experience in the field of English for Medical Purposes and have participated in medical conferences, in anatomy lectures, and in observing courses of propaedeutics.

4.1.2. Course design

English for Medical Purposes (EMP) is studied in the subjects of Medical English I in the winter term and Medical English II in the summer term. The course is designed for 3rd study year students only. No possibility exists for such language study (EMP) in any year prior to or following the third academic year. The students are divided into 4 groups ranging from levels A2, B1, B2, and C1+ according to CEFR. Division according to groups is based on a placement test taken prior to the course beginning and available on Moodle.

4.1.3. Syllabus

As mentioned above, Medical English I and II are covered within 2 semesters and comprise a total of 57 45-minute lessons. This means that the courses must be very concise, the content must be carefully chosen, and some areas must be preferred to others. As for frequency, there is one block of three 45-minute lessons weekly. The block is further divided into two sub-blocks, one conducted by a Czech teacher, one by a native speaker. The syllabus contains topics from theoretical fields such as body systems, pre-clinical fields such as signs and symptoms of particular diseases, and clinical fields such as taking a history. For detailed information concerning the syllabus, see Figures 20 and 21.

week	*Czech teacher*	*Native speaker*
1	**Parts of the body**	**Health and Illness**
2	**Function of the Body**	**Hospital** **Medical practitioners**
3	**Bones**	**Symptoms and signs**
4	**The GIS**	**The Respiratory S.**
5	**The heart and circulation**	**Blood** **The urinary s.**
6	**Gynaecology** **Pregnancy and childbirth**	**Childhood**
7	**Taking a history 1** **Physical examination**	**Taking a history 2 + 3**
8	**Basic investigation** **Surgical treatment**	**Medical treatment** **Therapies**
9	**revision**	**revision**
10	**credit test**	**Oral credit activity**

Figure 20: Medical English I syllabus – winter term

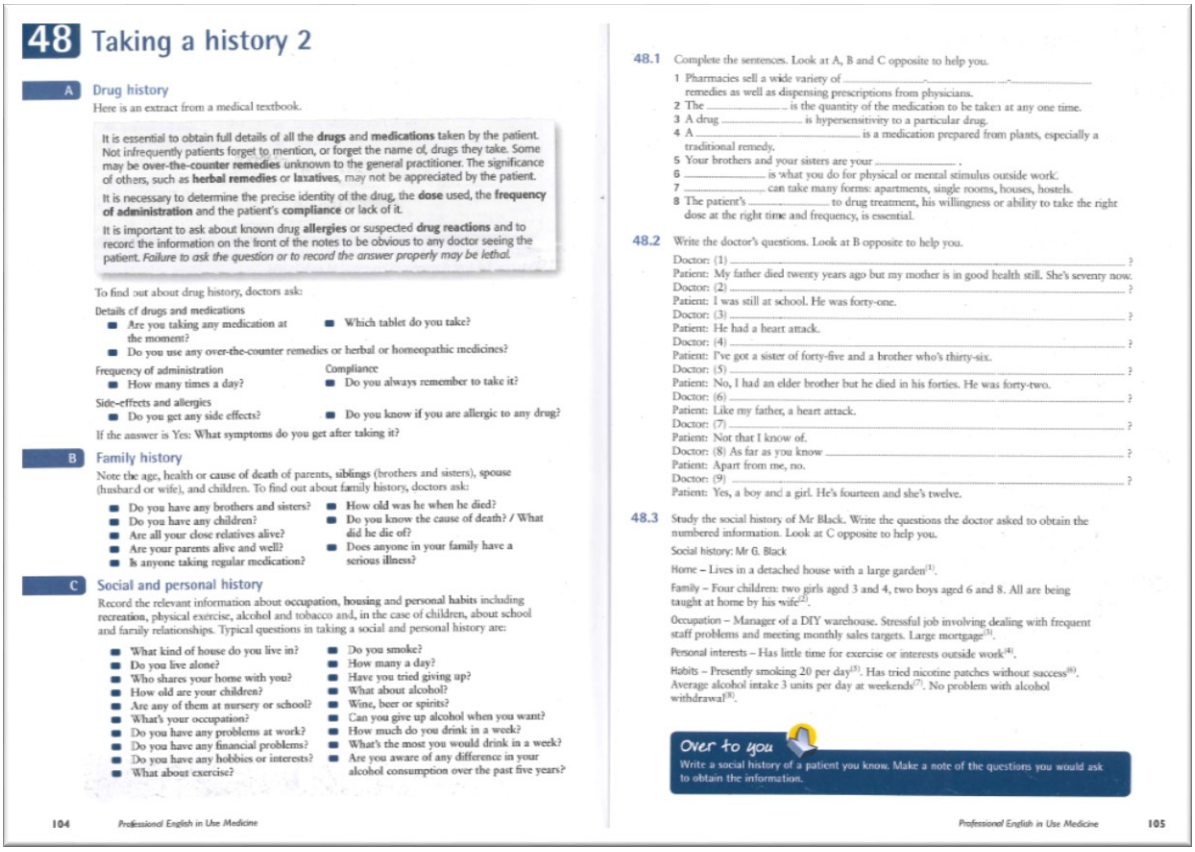
week	Native speaker	Czech teacher
1	**The endocrine system** **The eye**	**NS**
2	**Infections**	**Mental illness**
3	**Screening and immunization Epidemiology**	**The skin**
4	**Oncology**	**Endoscopy** **MRI and ultrasound**
5	**ECG**	**X-ray and CT**
6	**Discussing treatment**	**Explaining diagnosis and management**
7	**Giving bad news**	**Research studies**
8	**Conference presentations**	**Case presentations**
9	**Credit oral activity**	**Credit test**

Figure 21: Medical English II syllabus - summer term

4.1.4. Core material

The core material is the Oxford series book *Professional English in Use - Medicine* by Eric Glendenning and Ron Howard (published in 2007). The course book is a great resource of professional vocabulary and provides an elaborated set of exercises focusing on vocabulary

practice. However, it must be greatly supplemented. Firstly, the book merely focuses on vocabulary acquisition through reading. Secondly, it completely lacks listening comprehension material; teachers must adapt listening comprehension activities from other resources, such as *Medicine I* and *Medicine II* by Sam McCarter, *English in Medicine* by Eric Glendenning and Beverly A. S. Holmstrom, *English for Doctors* by Mária Györffy, or from internet sources. Lastly, the core material textbook offers a very limited bank of speaking activities. Teachers must make an enormous effort to supplement the core material with activities focusing on speaking in the form of activating teaching methods. Thus, the shortcomings of the core material are what initiated the need for developing activating teaching methods. Over time, these methods have become an integral part of every lesson and their functionality has been positively appreciated and has contributed to an improved classroom environment. The core book is used as scaffolding for the particular topic rather than material ready for use in the lessons. Figures 22 and 23 offer a comparison of the topics from the core study material and the modified material ready for use.



48 Taking a history 2

A Drug history

Here is an extract from a medical textbook.

It is essential to obtain full details of all the **drugs** and **medications** taken by the patient. Not infrequently patients forget to mention, or forget the name of, drugs they take. Some may be **over-the-counter remedies** unknown to the general practitioner. The significance of others, such as **herbal remedies** or **laxatives**, may not be appreciated by the patient.

It is necessary to determine the precise identity of the drug, the **dose** used, the **frequency of administration** and the patient's **compliance** or lack of it.

It is important to ask about known drug **allergies** or suspected **drug reactions** and to record the information on the front of the notes to be obvious to any doctor seeing the patient. *Failure to ask the question or to record the answer properly may be lethal.*

To find out about drug history, doctors ask:

Details of drugs and medications
- Are you taking any medication at the moment?
- Which tablet do you take?
- Do you use any over-the-counter remedies or herbal or homeopathic medicines?

Frequency of administration
- How many times a day?

Compliance
- Do you always remember to take it?

Side-effects and allergies
- Do you get any side effects?
- Do you know if you are allergic to any drug?

If the answer is Yes: What symptoms do you get after taking it?

B Family history

Note the age, health or cause of death of parents, siblings (brothers and sisters), spouse (husband or wife), and children. To find out about family history, doctors ask:
- Do you have any brothers and sisters?
- Do you have any children?
- Are all your close relatives alive?
- Are your parents alive and well?
- Is anyone taking regular medication?
- How old was he when he died?
- Do you know the cause of death? / What did he die of?
- Does anyone in your family have a serious illness?

C Social and personal history

Record the relevant information about occupation, housing and personal habits including recreation, physical exercise, alcohol and tobacco and, in the case of children, about school and family relationships. Typical questions in taking a social and personal history are:
- What kind of house do you live in?
- Do you live alone?
- Who shares your home with you?
- How old are your children?
- Are any of them at nursery or school?
- What's your occupation?
- Do you have any problems at work?
- Do you have any financial problems?
- Do you have any hobbies or interests?
- What about exercise?
- Do you smoke?
- How many a day?
- Have you tried giving up?
- What about alcohol?
- Wine, beer or spirits?
- Can you give up alcohol when you want?
- How much do you drink in a week?
- What's the most you would drink in a week?
- Are you aware of any difference in your alcohol consumption over the past five years?

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48.1 Complete the sentences. Look at A, B and C opposite to help you.

1 Pharmacies sell a wide variety of _____ remedies as well as dispensing prescriptions from physicians.
2 The _____ is the quantity of the medication to be taken at any one time.
3 A drug _____ is hypersensitivity to a particular drug.
4 A _____ is a medication prepared from plants, especially a traditional remedy.
5 Your brothers and your sisters are your _____ .
6 _____ is what you do for physical or mental stimulus outside work.
7 _____ can take many forms: apartments, single rooms, houses, hostels.
8 The patient's _____ to drug treatment, his willingness or ability to take the right dose at the right time and frequency, is essential.

48.2 Write the doctor's questions. Look at B opposite to help you.

Doctor: (1) _____ ?
Patient: My father died twenty years ago but my mother is in good health still. She's seventy now.
Doctor: (2) _____ ?
Patient: I was still at school. He was forty-one.
Doctor: (3) _____ ?
Patient: He had a heart attack.
Doctor: (4) _____ ?
Patient: I've got a sister of forty-five and a brother who's thirty-six.
Doctor: (5) _____ ?
Patient: No, I had an elder brother but he died in his forties. He was forty-two.
Doctor: (6) _____ ?
Patient: Like my father, a heart attack.
Doctor: (7) _____ ?
Patient: Not that I know of.
Doctor: (8) As far as you know _____ ?
Patient: Apart from me, no.
Doctor: (9) _____ ?
Patient: Yes, a boy and a girl. He's fourteen and she's twelve.

48.3 Study the social history of Mr Black. Write the questions the doctor asked to obtain the numbered information. Look at C opposite to help you.

Social history: Mr G. Black

Home – Lives in a detached house with a large garden(1).

Family – Four children: two girls aged 3 and 4, two boys aged 6 and 8. All are being taught at home by his wife(2).

Occupation – Manager of a DIY warehouse. Stressful job involving dealing with frequent staff problems and meeting monthly sales targets. Large mortgage(3).

Personal interests – Has little time for exercise or interests outside work(4).

Habits – Presently smoking 20 per day(5). Has tried nicotine patches without success(6). Average alcohol intake 3 units per day at weekends(7). No problem with alcohol withdrawal(8).

Over to you

Write a social history of a patient you know. Make a note of the questions you would ask to obtain the information.

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Figure 22: Core study material Professional English in Use, Chapter 47 Taking a history 2 (Glendinning – Howard 2007: 102-103)

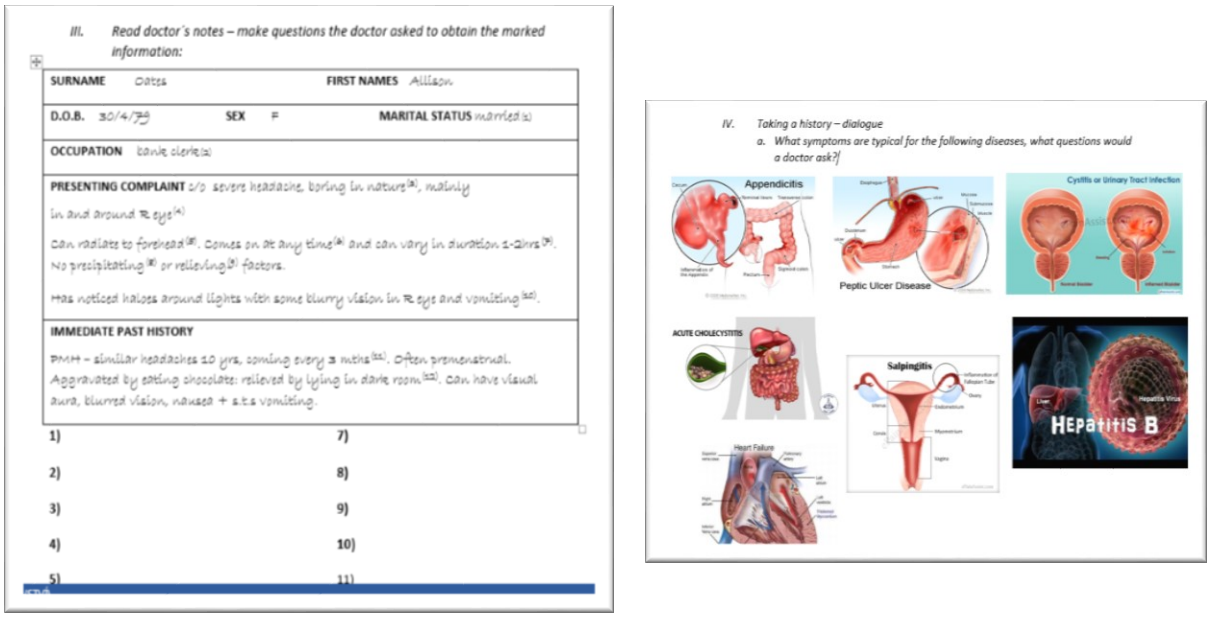


Figure 23: Modified material concerning the topic Taking a History

4.1.5. Outcome

The subjects Medical English I and II are completed with a credit assignment consisting of the written credit test and an oral activity in both terms. The credit test involves a listening comprehension exercise, which comprises 40% of the whole test, and a gramlex part which makes up the remainder. Students are thus tested on technical and semi-technical vocabulary and their ability to take a patient's history. The students must provide definitions of certain terms and create questions relevant to doctor-patient communication, including open questions with short answers. Students are also asked to give synonyms or explanations of medical abbreviations as well as true/false and cloze exercises. The oral part of the credit comprises a short speaking activity on a given topic (for the winter term) and a presentation on a particular diagnosis (summer term), including a brief description of the disease and relevant information such as diagnostic methods and treatments. Upon completing the credit requirements in both semesters, students then take a final, oral exam, which is done in pairs. Students draw a diagnosis from face-down cards and then must describe signs and symptoms of the particular diagnosis they have drawn, take a patient's history, explain any relevant examination methods, and suggest potential treatment, including changes in lifestyle.

4.2. Research

4.2.1. Research sample

The research population presented here comprises third year General Medicine students at the Charles University Faculty of Medicine in Hradec Králové between the years 2014 and 2018. According to the placement test available on Moodle, the students were divided into 4 groups ranging from levels A2, B1, B2, and C1+. According to CEFR (Council of Europe 2001: 23) and the Manual for Language Test Development and Examining (Council of Europe 2011: 13), level A2 indicates basic users, levels B1 and B2 independent users, and C1 proficient users. Students with levels A2 and C1+ were excluded from the research, while group B1 and B2 were included in order to obtain an adequately homogenous sample for the research being conducted. Preliminary research carried out in 2014 - 2015 revealed a total population of 135 students in the 3rd study year, 71 of whom were placed in levels B1 and B2. It seemed this number would be a sufficient sample of participants but unfortunately 59% of these 71 students had to be excluded from the research due to low attendance (mortality = 42 students). This meant only 29 students remained. The preliminary research revealed the necessity of including more study years in the research in order to ensure a statistically large enough sample. Pelikán (2007: 51) states that it is not possible to stipulate a definite research sample size, but smaller sizes are preferred to large sizes in pedagogical research as it allows exploration from more angles and perspectives. If a large sample is selected, there is the risk that researchers do not go deeper into the problem due the limited number of techniques employed for research (Pelikán 2011: 31), making a broader array of techniques more suitable. In contrast, Chráska (2016: 20) is in favour of a larger sample because it better approximates the actual properties of the population. Gavora (2010:81) states the research sample should be substantial enough so that the results are applicable to the population as a whole. In light of this, study years 2015-2016, 2016-2017, and 2017-2018 were included in the research. In 2015-2016, a total of 156 students enrolled into the subject Medical English I, out of whom 76 were originally placed in the research. 22 were subsequently excluded due to poor attendance, leaving 54 participants. Level B1 consisted of an experimental group of 14 participants, with 13 in the control group. The B2 level was represented by 10 participants in the experimental group and 17 in the control group. The study year 2016 – 2017 saw 68 students placed in the levels B1 and B2 out of a total of 135 students studying Medical English I. Due to the poor

attendance of 25 students, only 38 participants remained. The B1 level was represented by 12 participants in the experimental group and 6 participants in the control. Level B2 had 7 participants in the experimental group compared to 13 controls. In 2017-2018, 127 students enrolled into the subject Medical English I, out of whom 65 students were placed in levels B1 and B2. Poor attendance excluded 5 participants from the research, leaving 60. In B1, there were 15 participants in the experimental group compared to 16 controls. For B2 there were 15 participants in the experimental group and 14 in the control group. The decision concerning which group would be the experimental one and which the control was made on a purely random basis.

Table 1: Overview of research sample

year	Total number of enrolments in Medical English I	Total number of students B1+ and B2	Number of participants meeting the requirement condition	B1 experimental group	B1 control group	B2 experimental group	B2 control group
2014-2015	135	71	29	not specified			
2015-2016	156	76	54	14	13	10	17
2016-2017	135	68	38	12	6	7	13
2017-2018	127	65	60	15	16	15	14
Total number				41	35	32	44

In summary, the experiment regarding implementation of activating methods obtained a research sample with a total number of 152 subjects, out of whom level B1 was represented by 41 subjects in the experimental group and 35 in the control, while level B2 was represented by 32 subjects in the experimental group and 44 controls.

4.2.2. Research items

The **independent variable** in our experiment is the controlled and intentional exposure of groups to activating teaching methods specially constructed for the experiment. As activating teaching methods were implemented in both the experimental and the control groups, the initial step was to create the 80-item list on which our research was to be based. This list allowed us to create two sets of activating teaching methods, one for the experimental group (using vocabulary from the 80-item list), the other for the control group (absent of vocabulary from the 80-item list). For better illustration, see Figure 24.

Creating the 80-item list

The 80-item list was carefully worked and played a very important role in the research. The first step in the process was to create a vocabulary word stock from the core material *Professional English in Use – Medicine* by Glendenning – Howard (see Appendix 1). All the teachers involved in the instruction of the Medical English I and II cooperated. The slight discrepancy in the total number of items for the winter (450) and summer semesters (550) was due to the asymmetrical nature of the workload. Certain chapters covered in the winter contained fewer technical terms. The second step, conducted in the pre-research in 2014-2015, was to present the word stock to students in order to find out which items they found unfamiliar. At the beginning of every lesson, students from the B1 and B2 first subgroups were provided with an extensive vocabulary list based on the topic covered that day and asked to mark any unknown items. Those items marked most frequently were included within the 80-item list. Using this procedure, we obtained 3 to 5 items for the weekly topics covered throughout each semester. Prior to implementing this selection procedure, we considered using the placement test as a means to ascertain student knowledge of the technical terms. However, given that the main purpose of the placement test is to divide students into levels and not to gauge their familiarity with medical English items, we dismissed this possibility.

TOPICS	Research items
BASIC INVESTIGATIONS	dilate optic disc
BODY PARTS	armpit gait groin gullet loin spleen
BONES	compound fracture splint
CASE PRESENTATIONS	c/o NAD
CHILDBIRTH	breech presentation miscarriage stillbirth
CVS	finger clubbing harsh murmur palpate
ENDOSCOPY	orifice excise incision informed consent

EXPLAINING DIAGNOSIS AND MANAGEMENT	anti-depressants broken hip gullet nocturia
FUNCTIONS OF THE BODY	discharge (from hospital) gullet hard of hearing long-sightedness blurry vision ward round
GIS	dullness lining tarry stool
GIVING INSTRUCTIONS	Curl up. Lie on your front. Tilt your head back.
GYNAECOLOGY	Fallopian tube hot flushes intercourse IUD patch womb
MRI AND ULTRASOUND	foreign body plane transducer wipe off gel
SKIN 1 - LESIONS	break out naevus pustule scab shingles
SKIN 2- INJURIES	abrasion incised wound laceration pressure sore scale
SURGERY	incision referral retractor swab
TAKING A HISTORY	allergic to fur gripping pain pass away
THE NERVOUS SYSTEM 1	dizziness seizure slurred (speech) tingling visual acuity
THE NERVOUS SYSTEM 2	flaccidity involuntary (movements) muscle bulk muscle wasting tremor
X-RAY AND CT	contrast medium cross-sectional slices density enema expose

Figure 24: 80-item list

4.2.3. Implementation of the activating teaching methods

A set of 15 activities employing activating methods was developed and implemented to determine to what extent activating teaching methods can influence the acquisition of medical vocabulary. The set of 15 activities included didactic games such as Crosswords, Describe and Guess, Describe and Swap, Explain, Find Someone Who, Noughts and Crosses, Ping-pong, Risk, Snakes and Ladders, Words and Definitions, and What is the Diagnosis. These activities encouraged to practice the target vocabulary (form, meaning, and use) through speaking and listening. Students were also encouraged to cooperate, share opinions or experiences, solve problems, and help each other.

The first idea was to implement the set of 15 activities in the experimental group only and carry out instruction for the control group without the use of activating teaching methods. However, since activating methods have become an integral part of language teaching (Harmer 2013, Jankovcová – Průcha – Koudela 1988, Kotrba - Lacina 2015, Maňák -Švec 2003, Petty 2008, Rohlíková - Vejvodová 2012, Scrivener 1984, Sitná 2009, Ur 2012), instruction for the control subgroup could not be conducted without activating teaching methods, since such methods present a broad array of activities: didactic games, discussions, role-plays, and situation games (all described in Chapter 3). Without these methods, the lessons would be impoverished, opportunities for students to speak would be limited, and practical application of language skills (e.g. doctor-patient role-play) would be missing. Accordingly, activating teaching methods were implemented in both the experimental and control groups. However, activities containing words from the 80-item list were implemented in the experimental groups only.

An activity involving activating teaching methods was implemented at the beginning of each class as a warm-up to revise the professional vocabulary from previous classes. Students were asked to give definitions of professional lexical items, perform doctor-patient dialogues, explain diagnostic methods or potential treatment, etc., all in spoken form. The activating teaching methods were implemented in each class except for the first and last. The first class was initiated by an ice-breaker not included in this dissertation. Students were provided with information concerning the organization of the course and a student needs analysis was also carried out. The last lesson was devoted to credit activities. It must be highlighted that the activating teaching methods dealt with in this thesis are

activities focusing on revision of the topics covered in previous classes, i.e. retrieval of the already noticed vocabulary and its generative use. All activating teaching methods provide further practice of the form, meaning, and use of the words. The following section will offer an overview of the activities, including the main vocabulary area, the number of items practiced, and how the items used for the experimental and control groups differed. For better illustration, the differences are colour-coded (red for the experimental group, green for the control).

List of activities implemented in the winter semester

Week 2: Didactic Game Noughts and Crosses

The didactic game *Noughts and Crosses* implemented in 2nd week in the winter semester focuses on the practice and revision of lexical items concerning parts of the body. In this pair-work activity, students are encouraged to give definitions to lexical items covered in previous session. Figures 24 and 24 show the items involved.

This activity provides opportunities both for receptive and productive knowledge and provides further practice in form, meaning, and use. Student A must recognize the item (receptive knowledge) and try to produce a definition (productive use). Student B listens to the definition (receptive knowledge), retrieves the meaning (receptive knowledge), recognizes the item being described (receptive knowledge), and then must pronounce the item correctly, including stress (productive knowledge). As students take turns, all participants are given an equal chance to practice.

As mentioned previously, the activating teaching methods are used both in the experimental and the control group. Figures 25 and 26 show how the items used differ for both groups.

buttocks	pancreas	duodenum	belly-button	bronchus	appendix
kidney	spleen	small intestine	ureter	bladder	duodenum
ureter	bronchus	larynx	testicles	limb	hip
bowel	liver	stomach	forearm	shoulder	thumb
bladder	heart	lungs	chin	nipple	brain
diaphragm	airways	trunk	loin	alveolus - alveoli	heel
limb	chest	groin	upper arm	sole	Adam's apple
armpit	jaw	shin	large intestine	palm	nostril
thigh	navel	eyelid	earlobe	temple	gall bladder

Figure 25: Noughts and Crosses - experimental group handout

buttocks	pancreas	duodenum	belly-button	bronchus	appendix
kidney	vein	small intestine	ureter	bladder	duodenum
ureter	bronchus	larynx	testicles	extremity	hip
bowel	liver	stomach	forearm	shoulder	thumb
bladder	heart	lungs	chin	nipple	brain
diaphragm	airways	trunk	abdomen	knee	big toe
limb	chest	forehead	upper arm	sole	Adam's apple
toe	jaw	shin	large intestine	palm	nostril
thigh	navel	eyelid	elbow	temple	spleen

Figure 26: Noughts and Crosses - control group handout

The activity Noughts and Crosses includes 54 lexical items. The handouts for the experimental and the control group differ in 5 items. The terms '*loin'*, '*groin'*, '*armpit'*, '*earlobe*', and '*gall bladder*' are used for the experimental group (see Figure 25), while the control group are given *'abdomen', 'forehead', 'toe', 'elbow',* and *'spleen'* (see Figure 26).

Week 3: Didactic game Describe and Guess I

The group-work activity *Describe and Guess* focuses on the practice and revision of the previous topic concerning functions of the body, physical examination, and medical practitioners. Students take turns describing words and collocations. As in the previous activity, the focus is on form, meaning, and use of the words and involves both receptive and productive knowledge. The activity involves 36 items, 9 of which differ for the experimental and control groups. The experimental group gives definitions for the items included within the 80-item list, namely *'loin',* 'hard *of hearing'*, '*curl up*', '*ward round'*, '*discharge'*, '*long-sightedness'*, '*tilt your head back*', '*lie on your front*', and '*vision'* (see Figure 27). The control group describes items not included within the 80-item list, such as '*taste'*, '*pass water'*, '*lie on your back'*, '*blindness'*, '*deafness'*, '*touch'*, '*breathe in*', and '*raise your leg*' (see Figure 28).

choke	outpatient department	take patient's history
admit	inpatient department	shifts
specialist registrar	ward	stick your tongue out
mandible	hold your breath	stand straight
open your mouth	pass faeces	pass urine
sweat	sensation	referral
numbness	deafness	ICU
nauseous	inguinal region	axilla
loin	spleen	gait
large intestine	hard of hearing	curl up
ward round	discharge (from hospital)	long-sightedness
tilt your head back	lie on your front	vision

Figure 27: Describe and Guess I - experimental group handout

choke	outpatient department	take patient's history
admit	inpatient department	shifts
specialist registrar	ward	stick your tongue out
mandible	hold your breath	stand straight
open your mouth	pass faeces	pass urine
sweat	sensation	referral
numbness	deafness	ICU
be nauseous	inguinal region	axilla

taste	spleen	gait
large intestine	pass water	lie on your back
blindness	deafness	touch
sweat	breathe in	raise your leg

Figure 28: Describe and Guess I - control group handout

Week 4: Didactic game Snakes and Ladders

The activity Snakes and Ladders is organized in pairs and focuses on revision of the locomotive system. It focuses on form, meaning, and use by making definitions, providing synonyms, and labelling the pictures. The activity involves 26 items, 7 of which differ for the experimental and the control groups. The experimental group receives '*ward round', 'gait', 'groin', 'curl up', 'tilt your head back', 'compound fracture,'* and *'long-sightedness'*; the control group works with '*hearing'*, '*short-sightedness'*, '*take off your top things'*, '*diplopia'*, '*Achilles tendon'*, '*flat feet'*, and '*bitter'*. The handouts are presented in Figure 29.

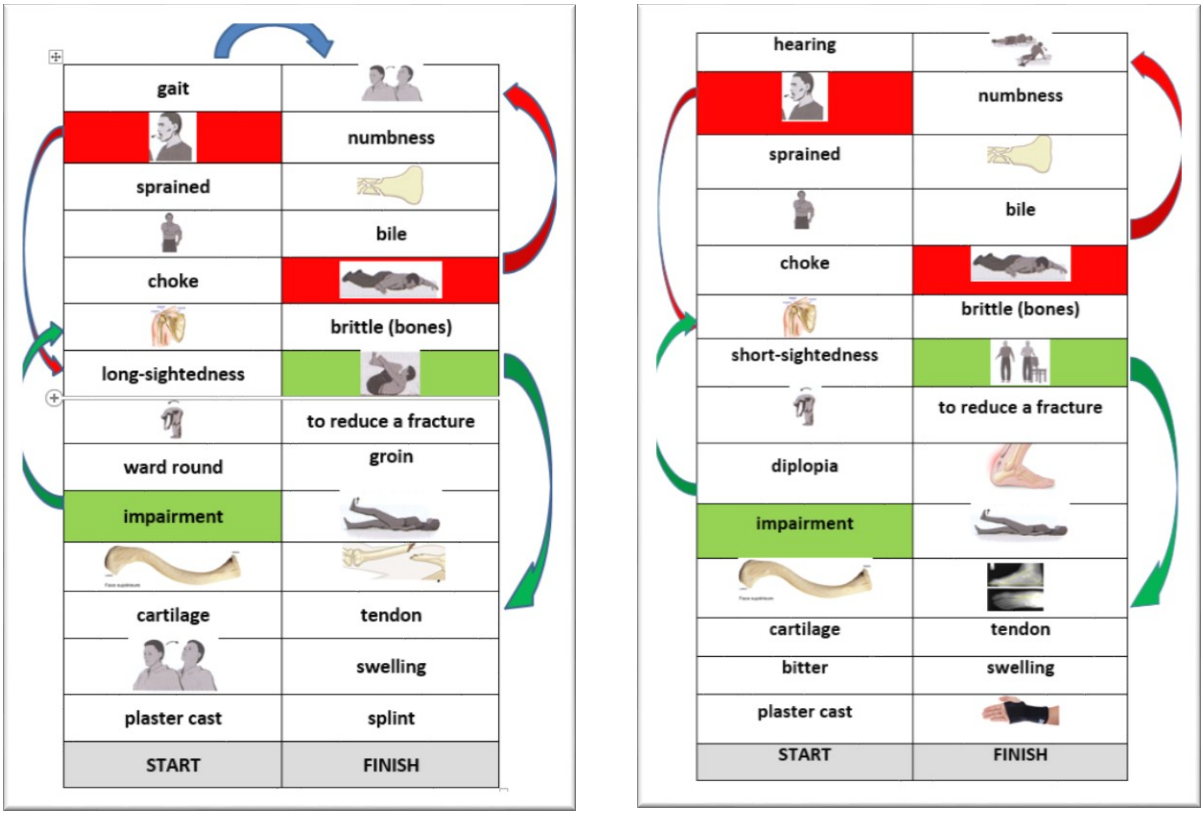


Figure 29: Snakes and Ladders - experimental group handout on left, control group handout on right

Week 5: Didactic game Ping-pong

This group-work activity is based on providing synonyms for items related to the gastrointestinal system. As it involves recognition of a particular item followed by giving a synonym, it mostly focuses on form and meaning. 25 items are included, with 5 items differentiating the experimental group from

the control. '*Armpit*', '*murmur*', '*tarry stool*', '*compound fracture*', and '*finger clubbing*' are showed to the experimental group (Figure 30). The control group is exposed to '*rib*', '*bowel*', *stick your tongue out*', *fatigue fracture*', and '*touch*' (Figure 31).

Item given by the teacher/synonym provided by a student
Faeces/stools; artificial limb/prosthesis; exertion/effort; thorax/chest; armpit/axilla; defecate/pass stools; to examine by tapping/percuss; murmur/pathological sound heard in patients with valve defects; patella/knee; to examine – feel with your hands/palpate; hard infrequent stools/constipation; abdomen/stomach; frequent watery stools/loose stools; melena stools/tarry stools; stools large in volume/bulky stools; offensive/foul smell; open/compound fracture; clavicle/collar bone; finger clubbing/enlarged finger tips; femur/thigh bone; increase in weight/weight gain; ventricle/chamber; mandible/jaw; scapula/shoulder blade;

Figure 30: Ping-pong – experimental group items

Item given by the teacher/synonym provided by a student
Faeces/stools; artificial limb/prosthesis; exertion/effort; thorax/chest; rib/costa; defecate/pass stools; to examine by tapping/percuss; bowel/intestine; patella/knee; to examine – feel with your hands/palpate; hard infrequent stools/constipation; abdomen/stomach; frequent watery stools/loose stools; Stick your tongue out/ put your tongue out; stools large in volume/bulky stools; offensive/foul smell; fatigue/stress fracture; clavicle/collar bone; touch/sensation; femur/thigh bone; increase in weight/weight gain; ventricle/chamber; mandible/jaw; scapula/shoulder blade;

Figure 31: Ping-pong – control group items

Week 6: Didactic game Words and Definitions

This group-work activity reviews the vocabulary of the cardiovascular system and related disorders. It requires retrieval of meanings and generative use of the language. Students make definitions for the given items. Each student describes 4 items (productive knowledge) and gives definitions to at least 2 partners (who practice receptive knowledge). 12 items are revised, with the terms '*murmur*' and '*finger clubbing*' used for the experimental group (Figure 32) and '*bradycardia*' and '*right heart failure*' for the control group (Figure 33).

STUDENT A 1. Angina; 2. Murmurs; 3. Atrial fibrillation 4. Palpitations
STUDENT B 1. A heart attack; 2. Varicose ulcer; 3. Finger clubbing; 4. Anaemia
STUDENT C 1. Dullness; 2. Tachycardia; 3. Cardiac arrest; 4. Left heart failure

Figure 32: Words and definitions – experimental group items

STUDENT A 1. Angina; 2. Bradycardia; 3. Atrial fibrillation 4. Palpitations
STUDENT B 1. A heart attack; 2. Varicose ulcer; 3. Right heart failure; 4. Anaemia
STUDENT C 1. Dullness; 2. Tachycardia; 3. Cardiac arrest; 4. Left heart failure

Figure 33: Words and Definitions – control group items

Week 7: Didactic game Jigsaw

The jigsaw activity focuses on revision of vocabulary concerning the genito-urinary system and female reproductive system. Both receptive and productive knowledge are used, practicing form, meaning, and generative use. Students in pairs give definitions, provide synonyms, antonyms, meronyms, hyponyms, hypernyms, and /or appropriate collocations. Of the 20 items practiced, 7 differ between the experimental and control groups. The experimental group has '*miscarriage'*, '*fallopian tube'*, '*womb'*, '*hot flushes'*, '*IUD'*, '*intercourse',* and '*patch';* the control group describes *'forceps'*, '*empty one's bladder'*, '*oral contraceptives'*, '*heavy periods'*, '*LMP'*, '*delivery'*, and '*hesitancy'* (see Figure 34).

Student A

	1	2	3	4
A	miscarriage			Fallopian tube
B		EDD	umbilical cord	
C	discharge (noun)		menorrhagia	
D	dribbling	womb		
E		coagulated blood	hot flushes	

Student B

	1	2	3	4
A		night sweats	menarche	
B	menopause			IUD
C		intercourse		induced abortion
D			vertex presentation	cloudy (urine)
E	patch			stillbirth

Student A

	1	2	3	4
A	forceps			empty one's bladder
B		EDD	umbilical cord	
C	discharge (noun)		menorrhagia	
D	dribbling	oral contraceptives		
E		coagulated blood	heavy (periods)	

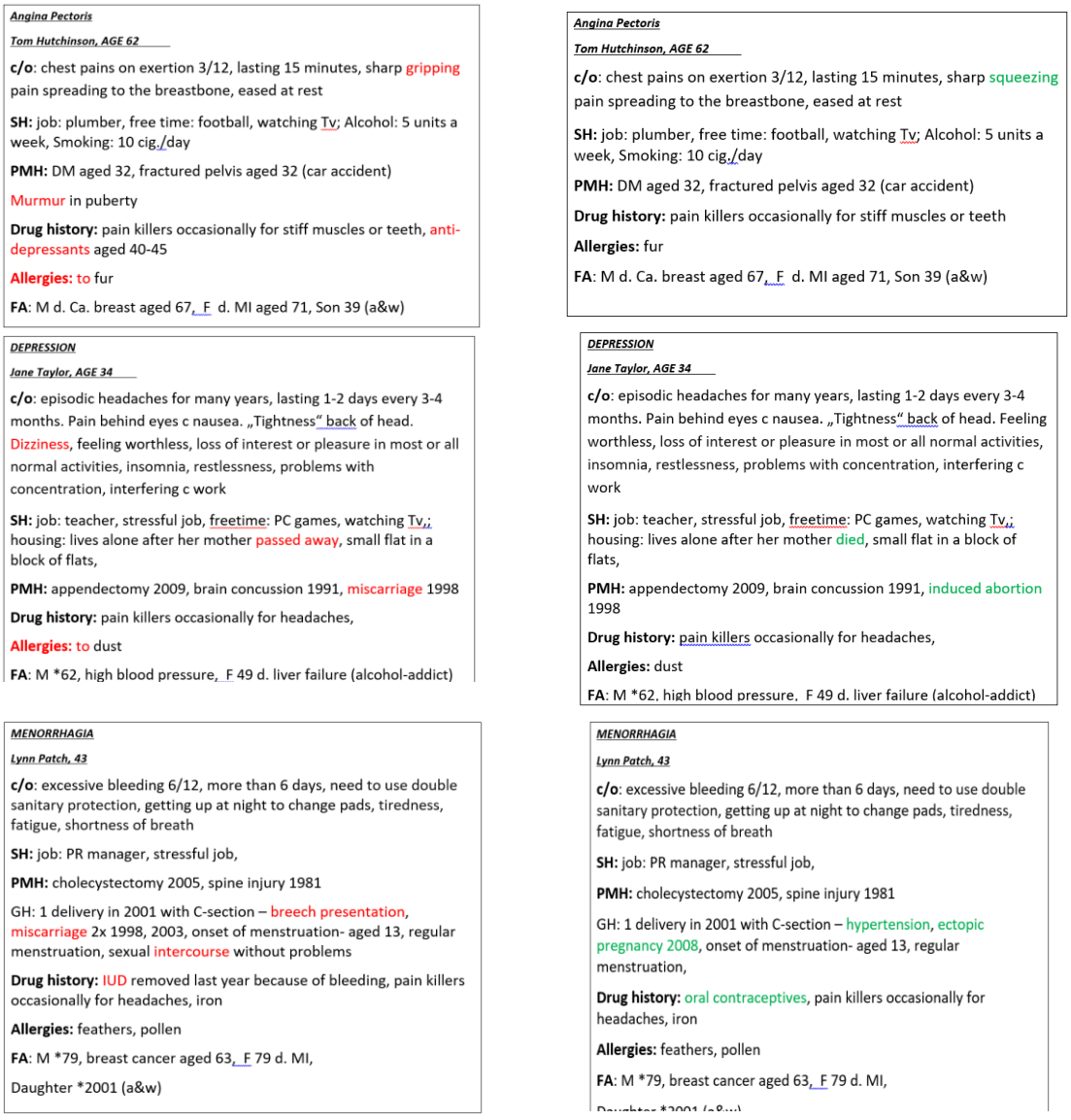
Student B

	1	2	3	4
A		night sweats	menarche	
B	menopause			LMP
C		delivery		induced abortion
D			vertex presentation	cloudy (urine)
E	hesitancy			persistent urge to urinate

Figure 34: Jigsaw – experimental group handout on left, control group handout on right

Week 8: Role-play Ask the right question I

This activity focuses on questions concerning taking a patient's history. Students work in pairs and form questions to match the information provided. Though students are encouraged to generate questions (a highly productive activity), the items practiced require receptive knowledge. The number of items (questions) practiced is approximately 25, with 4 items from the 80-item list given to the experimental group. In the case of angina pectoris, the experimental group works with '*gripping pain*', '*murmur*', '*allergies to*', and *anti-depressants*'; the control group's medical report involves '*squeezing pain*'. The depression report used for the experimental group involves '*dizziness*', '*pass away*', '*miscarriage*', and '*allergies to*'; the control group is given '*died*' and '*induced abortion*'. The menorrhagia report contains '*breech presentation*', '*miscarriage*', '*intercourse*', and '*IUD*' for the experimental group, '*hypertension*', '*ectopic pregnancy*', and '*oral contraceptives*' for the control (see Figure 35).



Angina Pectoris

Tom Hutchinson, AGE 62

c/o: chest pains on exertion 3/12, lasting 15 minutes, sharp gripping pain spreading to the breastbone, eased at rest

SH: job: plumber, free time: football, watching Tv; Alcohol: 5 units a week, Smoking: 10 cig./day

PMH: DM aged 32, fractured pelvis aged 32 (car accident)

Murmur in puberty

Drug history: pain killers occasionally for stiff muscles or teeth, anti-depressants aged 40-45

Allergies: to fur

FA: M d. Ca. breast aged 67, F d. MI aged 71, Son 39 (a&w)

DEPRESSION

Jane Taylor, AGE 34

c/o: episodic headaches for many years, lasting 1-2 days every 3-4 months. Pain behind eyes c nausea. „Tightness" back of head. Dizziness, feeling worthless, loss of interest or pleasure in most or all normal activities, insomnia, restlessness, problems with concentration, interfering c work

SH: job: teacher, stressful job, freetime: PC games, watching Tv,; housing: lives alone after her mother passed away, small flat in a block of flats,

PMH: appendectomy 2009, brain concussion 1991, miscarriage 1998

Drug history: pain killers occasionally for headaches,

Allergies: to dust

FA: M *62, high blood pressure, F 49 d. liver failure (alcohol-addict)

MENORRHAGIA

Lynn Patch, 43

c/o: excessive bleeding 6/12, more than 6 days, need to use double sanitary protection, getting up at night to change pads, tiredness, fatigue, shortness of breath

SH: job: PR manager, stressful job,

PMH: cholecystectomy 2005, spine injury 1981

GH: 1 delivery in 2001 with C-section – breech presentation, miscarriage 2x 1998, 2003, onset of menstruation- aged 13, regular menstruation, sexual intercourse without problems

Drug history: IUD removed last year because of bleeding, pain killers occasionally for headaches, iron

Allergies: feathers, pollen

FA: M *79, breast cancer aged 63, F 79 d. MI,

Daughter *2001 (a&w)

Angina Pectoris

Tom Hutchinson, AGE 62

c/o: chest pains on exertion 3/12, lasting 15 minutes, sharp squeezing pain spreading to the breastbone, eased at rest

SH: job: plumber, free time: football, watching Tv; Alcohol: 5 units a week, Smoking: 10 cig./day

PMH: DM aged 32, fractured pelvis aged 32 (car accident)

Drug history: pain killers occasionally for stiff muscles or teeth

Allergies: fur

FA: M d. Ca. breast aged 67, F d. MI aged 71, Son 39 (a&w)

DEPRESSION

Jane Taylor, AGE 34

c/o: episodic headaches for many years, lasting 1-2 days every 3-4 months. Pain behind eyes c nausea. „Tightness" back of head. Feeling worthless, loss of interest or pleasure in most or all normal activities, insomnia, restlessness, problems with concentration, interfering c work

SH: job: teacher, stressful job, freetime: PC games, watching Tv,; housing: lives alone after her mother died, small flat in a block of flats,

PMH: appendectomy 2009, brain concussion 1991, induced abortion 1998

Drug history: pain killers occasionally for headaches,

Allergies: dust

FA: M *62, high blood pressure, F 49 d. liver failure (alcohol-addict)

MENORRHAGIA

Lynn Patch, 43

c/o: excessive bleeding 6/12, more than 6 days, need to use double sanitary protection, getting up at night to change pads, tiredness, fatigue, shortness of breath

SH: job: PR manager, stressful job,

PMH: cholecystectomy 2005, spine injury 1981

GH: 1 delivery in 2001 with C-section – hypertension, ectopic pregnancy 2008, onset of menstruation- aged 13, regular menstruation,

Drug history: oral contraceptives, pain killers occasionally for headaches, iron

Allergies: feathers, pollen

FA: M *79, breast cancer aged 63, F 79 d. MI,

Figure 35: Ask the right question I – experimental group handout on left, control group handout on right

Week 9: Didactic game Hot Seat

This group work activity provides practice with form, meaning, and use. As it is implemented in the last practical in the winter semester, it reviews all topics previously covered. Hot Seat involves making definitions, providing synonyms, appropriate collocations, antonyms, meronyms, hyponyms, and/or hypernyms. There are 30 items total; the experimental group and the control group differ in 10. '*Optic disc'*, '*gait'*, '*ward round'*, '*splint'*, '*harsh'*, '*patch*, '*gripping pain'*, '*miscarriage'*, '*tarry stool'*, and '*stillbirth'* are for the experimental group (Figure 36). The control group works with '*retina*', '*touch*', '*scrub nurse*', '*plaster cast*', '*deteriorate*', '*pancreas*', '*dull pain*', '*delivery*', and '*umbilical cord'* (Figure 37).

List of items practiced:

urether, lobe, tenderness, optic disc, suppository, calf, gait, bile, ward round, retractor, splint, p.o., compress, impacted (fracture), harsh, excruciating (pain), BP, clay-coloured (faeces), mucus, valve, ER, over-the-counter (drugs), patch, vertex (presentation), gripping (pain), miscarriage, c.c., shoulder blade, tarry (stool), stillbirth

Figure 36: Hot Seat – experimental group items

List of items practiced:

urether, lobe, tenderness, retina, suppository, calf, touch, bile, scrub nurse, retractor, plaster cast, p.o., compress, impacted (fracture), deteriorate, excruciating (pain), BP, clay-coloured (faeces), mucus, valve, ER, over-the-counter (drugs), pancreas, vertex (presentation), dull (pain), delivery, c.c., shoulder blade, pale (stool), umbilical cord

Figure 37: Hot Seat – control group items

List of activities implemented in the summer semester

Week 1: Didactic game Risk it

Being the first activity in the summer semester, this group work activity focuses on revision of all the topics covered throughout the winter semester. Students choose the topic and number of points they want to get (see Figure 38). They then must answer the given question. Even though revision of the topics learnt in the winter semester is included, the activity's main objective is to entertain students and create a positive classroom atmosphere. To that end, general knowledge questions (current affairs, sports, geography, etc.) are included in addition to the questions concerning medical knowledge. Students must recognize the written form of items and the parts thereof. They have to retrieve the meaning by giving synonyms, antonyms, meronyms, hyponyms, and hypernyms. Use is practiced via grammatical function and

collocations. This activity differs in 10 items for the experimental group and the control group. The experimental group gets '*allergic to'*, '*loin'*, '*spleen'*, '*fallopian tube'*, '*optic disc'*, '*IUD'*, '*breech presentation'*, '*retractor'*, '*swab'*, and '*lining'*; the control group's focus is on 'specialize in', '*duodenum'*, '*tendon'*, '*ovary'*, '*cornea'*, '*JVP'*, '*transverse lie'*, '*tweezers'*, '*gauze'*, and '*villi'*.

GENERAL	100	200	300	400	500
GRAMMAR	100	200	300	400	500
MEDICINE	100	200	300	400	500
DISEASES	100	200	300	400	500

Figure 38: Risk it - overview of topics and points

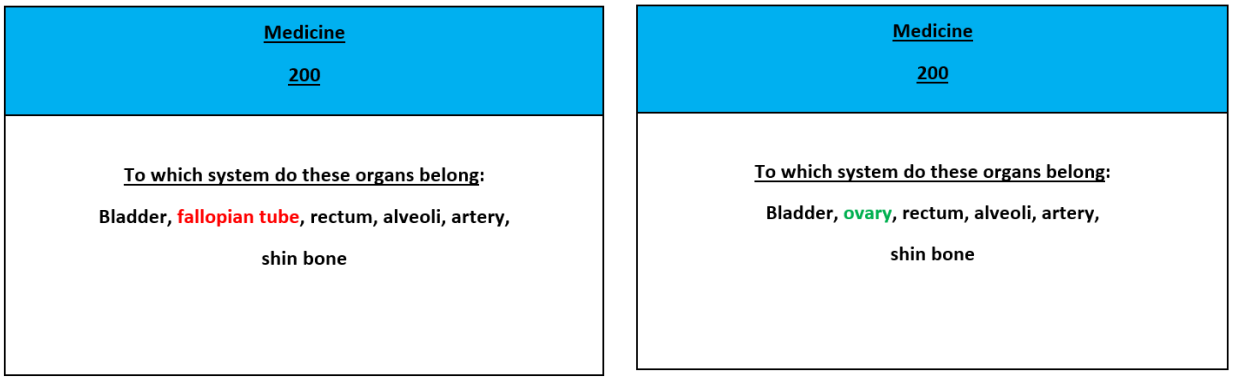


Figure 39: Risk it - experimental group items on left, control group items on right

Week 2: Didactic game Describe and Swap

This pair work activity practices vocabulary concerning the nervous system. It focuses on form (recognising and retrieving), meaning (providing synonyms, antonyms), and use (providing definitions, including appropriate collocations). As each student is given only one word to describe, there are 15 items practiced, with 5 items differing between the experimental and the control groups. '*Dizziness'*, '*seizure'*, '*slurred speech'*, '*tingling'*, and '*visual acuity'* are given to the experimental group; the control group describes '*deafness'*, '*consciousness'*, '*syncope'*, '*numbness',* and '*light-headiness'* (see Figure 40).

tingling in limbs	dizziness	seizure
visual acuity	shuffling steps	unsteady gait
tinnitus	tremor of hands	consciousness
involuntary (movements)	blurry vision	plantar reflex
cerebrovascular accident	fainting	hallmark
slurred speech	flare-ups	loss of bladder control
blurry vision	muscle spasms	brisk reflexes

numbness in limbs	deafness	consciousness
syncope	shuffling steps	loss of coordination
tinnitus	tic	deep tendon reflex
weakness	diplopia	plantar reflex
cerebrovascular accident	fainting	hallmark
pass out	flare-ups	loss of bladder control
paralysis	muscle spasms	brisk reflexes

Figure 40: Describe and Swap – experimental group items on left, control group items on right

Week 3: Didactic game What is the Diagnosis?

This activity starts as a whole class activity followed by pair work. Its focus is on the neurological system and psychiatric disorders. The teacher introduces a diagnosis and students have to ask precisely 10 questions, following which they must make the diagnosis. The total number of vocabulary items covered depends on the number of diagnoses included. The 5 items differentiating the experimental group from the control can be seen in Figures 41 and 42 below.

Introductory sentences:

It is a neurological disease. Symptoms are dizziness, problems with visual acuity and flaccidity of the muscles.

It is a stress-related disease. I have tremor, palpitations, and hot flushes.

Figure 41: What is the diagnosis? – introductory sentences for experimental group

Introductory sentences:

It is a neurological disease. Symptoms are seeing black spots, problems with coordination and tinnitus of the muscles.

It is a stress related disease. I am nervous, I have palpitations, and I sweat a lot.

Figure 42: What is the diagnosis? – introductory sentences for control group

Week 4: Didactic game Crosswords II

This pair work activity reviews skin injuries and lesions and focuses on form, meaning, and use (as explained in winter semester activities, week 7). A total number of 20 items are included. The

experimental group works with the following 7 items: '*incised wound*', '*abrasion*', '*scale*', '*shingles*', *pressure sore*', '*laceration*', and '*scab*'; the control group describes '*psoriasis*', '*boil*', ' *wart*' '*eczema*', '*cold sore*', '*birthmark*', and '*graze*' (Figure 43).

Student A handout

	A	B	C
1.	superficial		cold sore
2.			Incised wound
3.	contusion	abrasion	
4.		tear	
5.			scale

Student B handout

	A	B	C
1.		bruise	
2.	shingles	pressure sore	
3.			scratch
4.	laceration		scab
5.	blow (a noun)	penetrating wound	

STUDENT A

	A	B	C
1.	superficial		cold sore
2.			psoriasis
3.	contusion	boil	
4.		cicatrix	
5.			wart

STUDENT B

	A	B	C
1.		bruise	
2.	eczema	cold sore	
3.			scratch
4.	birthmark		graze
5.	blow (a noun)	penetrating wound	

Figure 43: Crosswords II – experimental group handout on left, control group handout on right

Week 5: Didactic game Ask the Right Question II

This activity revises the investigation method endoscopy and is organized in pairs. Students are encouraged to make questions to the answers they randomly draw. The focus on form, meaning, and use has been already described (see winter semester activities, week 8). Of the 20 items practiced, 4 differ between the experimental and control groups (Figure 44).

Growth or polyp.
By applying heat.
Endoscopy.
Swallow.
Through one of the natural orifices.
Biopsy.
Lubricate/apply gel/jelly.
Informed consent.
Recovery area.
Because it does not use radiation.
The brain.
It uses high-frequency sound waves.
Transducer.
Non-invasive.
Stay still.
Gel or jelly.
A radiographer.
(Contraindications are) People/patients with foreign bodies and pacemakers.
Obese patients.
Local anaesthetics.
It uses magnetic field.

Growth or polyp.
By applying heat.
Endoscopy.
Swallow.
Through one of the natural openings.
Biopsy.
Lubricate/apply gel/jelly.
MRI.
Recovery area.
Because it does not use radiation.
The brain.
It uses high-frequency sound waves.
Gantry.
Non-invasive.
Stay still.
Gel or jelly.
A radiographer.
(Contraindications are) People/patients with pacemakers or insulin pumps.
Obese patients.
Local anaesthetics.
It uses magnetic field.

Figure 44: Ask the Right Question II – experimental group handout on left, control group on right

Week 6: Didactic game Describe and Guess II

This pair work activity has been previously described (see winter semester activities, week 3). It is mainly used to revise investigating methods such as endoscopy, ultrasound, MRI, X-ray, and CT, with 7 of the 20 items involved differing. '*Contrast medium*', '*density', 'wipe off', 'plane', 'enema', 'cross-sectional slices',* and *'excise'* are given to the experimental group; '*barium meal*', '*bone disorders*', '*stand sideways*', '*serial X-rays*', '*swallow*', and '*unclear image*' are for the control group (Figure 45).

contrast medium	density	Stay still
Hold your breath.	Wipe off gel	fracture
radiologist	radiographer	plane
enema	drainage	iodine
Hold your breath.	cross-sectional slices	excise
expose	biopsy	referral
rigid (endoscope)	recovery area	chest X-ray

barium meal	bone disorders	Stay still
Hold your breath.	Stand sideways.	fracture
radiologist	radiographer	absorb
serial X-rays	drainage	iodine
Hold your breath.	Swallow.	unclear image
expose	biopsy	referral
rigid (endoscope)	recovery area	chest X-ray

Figure 45: Ask the Right Question II – experimental group handout on left, control group handout on right

Week 7: Didactic game Find Someone Who

This pair work activity practices how to explain a diagnosis, make a prognosis, manage a treatment plan, and supply lay-term synonyms for medical terms. It mostly focuses on meaning and generative use. There are 5 versions of cards and each version contains 7 items, allowing students to practice 35 items. Figure 46 provides one example of the differences between items given to the experimental and control groups.

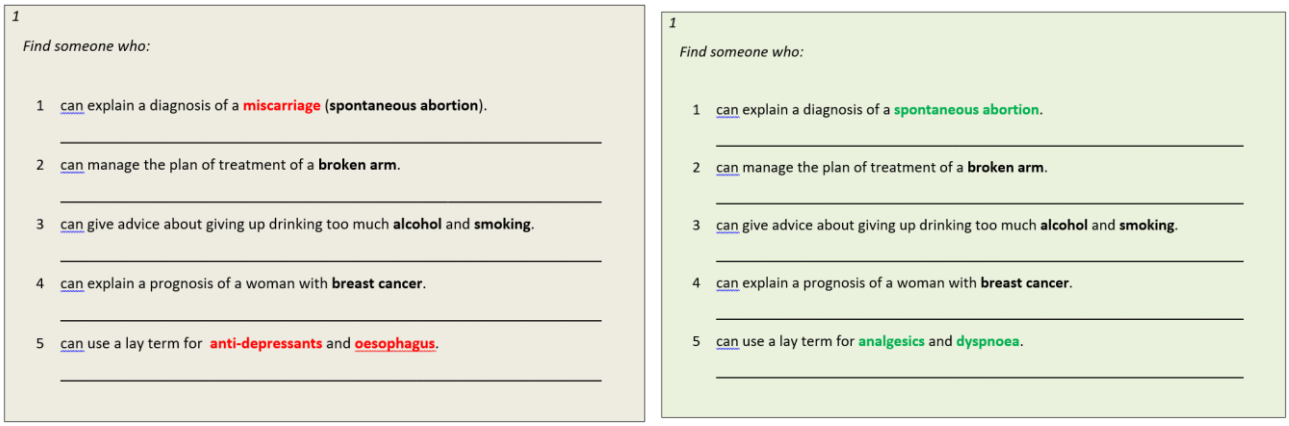


Figure 46: Ask the Right Question II – experimental group handout on left, control group handout on right

From the lists of activities above, it is apparent that form, meaning, and use (both receptive and productive) are extensively covered. Activating teaching methods should be highly

appreciated for the numerous opportunities they allow students to encounter and re-encounter vocabulary items. Plus, the activities are meaningful; students describe lexical items included in the doctors-to-be active lexicon. This is of particular benefit to medical students since mere receptive knowledge is not enough for their future communication with patients.

In addition to the language input itself, the activities also bear features of cooperative learning. They require students to cooperate and evaluate one another. Student autonomy is also developed. Pair work and group work permit active engagement by every student and the game-like elements can ease potential stress and help to create a positive classroom atmosphere.

The procedure of all 15 activities is listed and described in Appendix 2. They are listed in alphabetical order.

4.3. Student needs analysis

The importance of carrying out a student needs analysis is mentioned by many authors involved in English for Specific Purposes (Dudley-Evans - St John 2012, Howatt- Widdowson 2013, Huttchinson – Waters 2010, Richards – Rogers 2014). A student needs analysis helps to identify the necessities, lacks, and wants of students (Huttchinson – Waters 2010: 55-58). This type of analysis (in the form of a questionnaire) is realized as an initial step, which we carried out when students first enrolled in the subject Medical English I. The timing is important; handing out the questionnaire during the first lesson ensures maximal feedback. The questionnaire was anonymous to ensure respondents cound answer freely without fear of information being misused (Pelikán 2007: 112). There are disadvantageous to such an approach, the main one being that an anonymous questionnaire makes wider usage in the research impossible, for example when we want to pair data from the questionnaire and data obtained from other research techniques to a particular person. As the purpose of our student needs analysis questionnaire was to obtain data concerning course content, an anonymous questionnaire was used. The questionnaire was divided into two parts using various types of questions - open questions, closed, and semi-closed questions. Identification questions were not necessary as all students came from the 3rd study year and were students of general medicine. Only one question concerning gender was used in case the data might prove relevant to further research.

The purpose of the first part of the questionnaire was to gather information in terms of the students' experience with language education, both positive and negative. There was one closed question concerning the length of English studies, one semi-closed question regarding previous study materials, one closed question tracking the overall evaluation of previous language courses in percentages, and two open questions regarding evaluation of those previous courses. Open questions are particularly favourable as they do not limit the respondents in any way and provide a broad array of possible expressions (Gavora 2010: 126; Pelikán 2007: 108). For better illustration, see Figure 44.

DOTAZNÍK – ANALÝZA POTŘEB STUDENTŮ

ÚČASTNÍK: student oboru všeobecné lékařství

Dovoluji si Vás požádat o vyplnění následujícího dotazníku. Účelem dotazníku je zkvalitnění výluky předmět Odborný anglický jazyk tak, aby odpovídal individuálním potřebám studentů. Dotazník je také podkladem disertačr práce. Dotazník trvá maximálně 10 minut. Označte zvolené odpovědi křížkem ☒ nebo odpověď napište do textovéh pole.

pohlaví

☐ Muž ☐ Žena

Kolik let se učíte anglický jazyk?

- ☐ méně než jeden rok
- ☐ méně než 5 let
- ☐ méně než 10 let
- ☐ méně než 15 let.

Z jakých materiálů jste studoval/a?

- ☐ Headway
- ☐ Lifelines
- ☐ New Horizons
- ☐ Projects
- ☐ English File
- ☐ Reward
- ☐ Jiné _____

Jak byste ohodnotil/a předchozí kurz a proč?

- ☐ 0%
- ☐ 20%
- ☐ 50%
- ☐ 75%
- ☐ 100%

Co vám v předchozím kurzu vyhovovalo?

_____

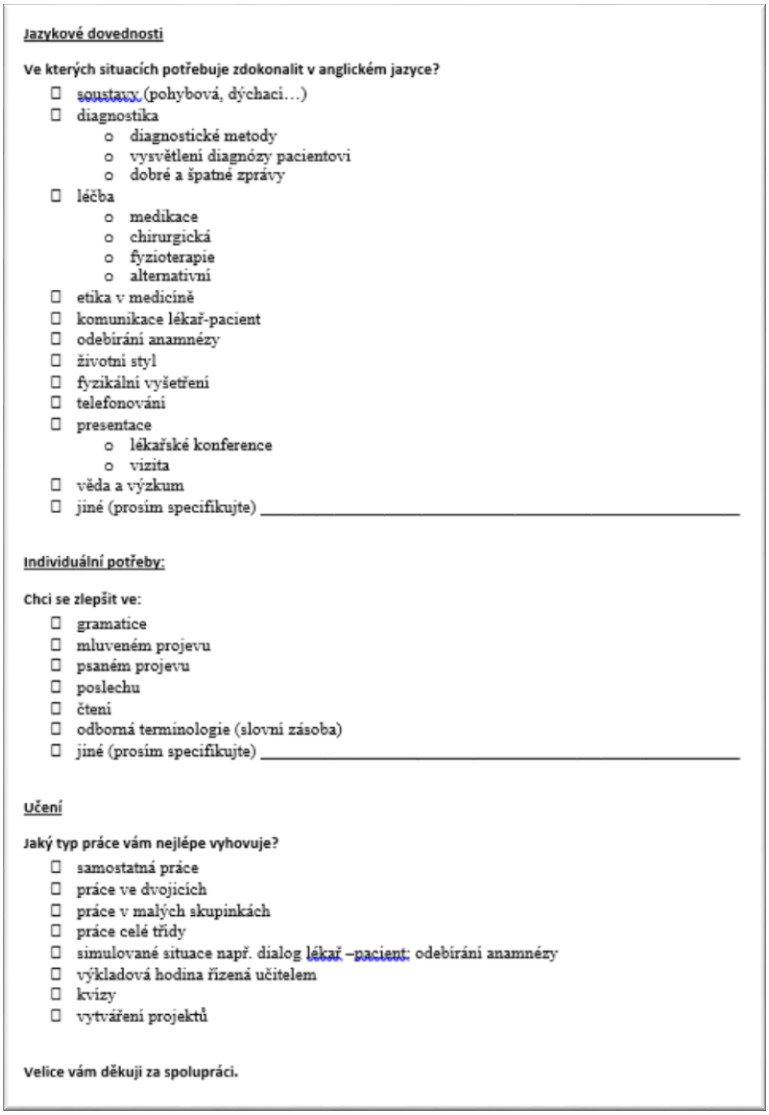
Co vám v předchozím kurzu nevyhovovalo?

_____

Figure 44: Student needs analysis questionnaire - part one

The second part dealt with the ongoing course of Medical English I and II. It consisted of two semi-closed questions and one closed question. A semi-closed question concerning the lexical content of the course made up the first question. Students had the opportunity to choose the medical topics they would like to focus on. These included theoretical fields such as body systems, pre-clinical fields such as the signs and symptoms of a wide array of diseases, clinical fields, including diagnostics and taking a history, and more general topics such as presentations, telephoning, conferences, and research. Then came a question

concerning which language skills and language components the students were willing to work on. The questionnaire ended with a question about which forms of interaction students prefer. Figure 47 offers an overview concerning the second part of the student needs analysis questionnaire.



Jazykové dovednosti

Ve kterých situacích potřebuje zdokonalit v anglickém jazyce?

- ☐ soustavy (pohybová, dýchací…)
- ☐ diagnostika
  - o diagnostické metody
  - o vysvětlení diagnózy pacientovi
  - o dobré a špatné zprávy
- ☐ léčba
  - o medikace
  - o chirurgická
  - o fyzioterapie
  - o alternativní
- ☐ etika v medicíně
- ☐ komunikace lékař-pacient
- ☐ odebírání anamnézy
- ☐ životní styl
- ☐ fyzikální vyšetření
- ☐ telefonování
- ☐ presentace
  - o lékařské konference
  - o vizita
- ☐ věda a výzkum
- ☐ jiné (prosím specifikujte) _____

Individuální potřeby:

Chci se zlepšit ve:

- ☐ gramatice
- ☐ mluveném projevu
- ☐ psaném projevu
- ☐ poslechu
- ☐ čtení
- ☐ odborná terminologie (slovní zásoba)
- ☐ jiné (prosím specifikujte) _____

Učení

Jaký typ práce vám nejlépe vyhovuje?

- ☐ samostatná práce
- ☐ práce ve dvojicích
- ☐ práce v malých skupinkách
- ☐ práce celé třídy
- ☐ simulované situace např. dialog lékař –pacient: odebírání anamnézy
- ☐ výkladová hodina řízená učitelem
- ☐ kvízy
- ☐ vytváření projektů

Velice vám děkuji za spolupráci.

Figure 47: Student needs analysis questionnaire - part two

The purpose of the questionnaire was to identify the necessities, lacks, and wants of students. As this dissertation concerns the influence of activating teaching methods on vocabulary acquisition, we deliberately included the questions concerning the evaluation of previous courses the students may have had (part one). Data obtained from these questions showed us if students had been exposed to activating teaching methods beforehand and to what extent they found these methods beneficial. The second part of the questionnaire helped us set the vocabulary content for the activating teaching methods

we planned to implement. Also, we learnt which language skills students most wanted to work on. Finding out which type of classroom interaction students prefer was also important as pair and group work is the most common interaction for activating teaching methods.

4.4. Research methods

The experimental research (in the form of a quasi-experiment) was concerned with studying the effect exposure to activating teaching methods has on students in order to find out to what extent acquisition of professional vocabulary can be influenced. A quasi-experiment was selected because participants were not randomly assigned to conditions but were chosen according to their language knowledge. Students classified as level B1 and B2 in the years 2014-2018 became the subjects of the research study. The groups B1 and B2 were subsequently divided into 2 subgroups – one experimental and one control group. Randomization within the groups was not possible because of high mortality, i.e. a decrease in the number of research samples, an occurrence which is common in longitudinal studies (Pelikán 2007: 64). In our research, this mortality was caused by the required attendance, stipulated at 65%. However, a certain degree of randomization can be seen in selecting which subgroup would be experimental and which would be control; it was based on random choice. Quasi-experimental research was conducted under standard school conditions. It contained implementation of activating methods in the form of 15 activities (8 in the winter term, 7 in the summer term) that focused on the acquisition of professional vocabulary. The degree of acquisition of professional vocabulary was measured with 4 progress tests and 2 credit tests. Evaluation questionnaires were used as a supplementary tool for gathering student opinion on activating teaching methods.

The measurement is carried out by four progress tests and two credit tests as the main research instruments. Two progress tests and one credit test for the subject Medical English I take place in the winter term, the remaining two progress tests and one credit test for Medical English II occur in the summer term. The sets of progress tests and credit tests function as **dependant variables** in the research.

The short-form evaluation questionnaires evaluating a particular activity implemented in each class represent a supplementary research instrument, as does the final evaluation questionnaire for the whole course.

4.4.1. Progress tests

We created a set of 4 progress tests statistically workable to obtain objective data concerning experimental versus control group vocabulary acquisition. It was important to make the focus of the tests strongly comparable with the content of the activating teaching methods covered throughout the semesters. Students were tested on their knowledge of specific medical vocabulary from the 80-item list.

The tests focused on form, meaning (synonyms, antonyms, meronyms, hyponyms, and hypernyms), and use (definitions, making questions), using both receptive and productive knowledge. Each progress test included a listening comprehension exercise (receptive knowledge) and a lexical component (both receptive and productive knowledge). For receptive knowledge focusing on retrieval of forms and meanings, we used:

- open questions in the listening part (e.g. answer the questions: *What problems did she have during the first delivery?* Breech presentation);
- dichotomy questions in the lexical part (e.g. decide if the statement is true (T) or false (F): *A ward round is a department in hospital* = F).

For productive knowledge (mostly focusing on meaning and generative use of the tested vocabulary), the lexical part included:

- cloze testing items to provide meronyms or hyponyms (e.g. answer the question: *What types of fractures do you know? = compound/open, greenstick, comminuted, impacted*);
- cloze testing items to provide synonyms or antonyms (e.g. find a synonym for: *tarry stool = melena stool,* find an opposite for: *breech presentation = vertex presentation);*
- cloze testing items to complete the sentences (e.g. complete the sentence with one word using the letter given: *A **r**etractor is a surgical instrument used to hold back organs or the edges of an incision*);
- open items to form questions (e.g. ask the right question concerning the following topic using the words in the brackets: rash (break out) = *When did the rash break out*?);

- open items concerning abbreviations (e.g. write down the full meaning of the following abbreviations: **NAD =** nothing abnormal detected);
- and open items to convey definitions of certain medical terms or collocations (e.g. explain briefly in your own words: *hard of hearing = inability to hear well)*.

The fact that the activating teaching methods were implemented in spoken form but the test was in written form should not be problematic. The content of the activating teaching methods and the content of the tests exhibited a strong degree of similarity.

It is important to highlight that it was not possible to use standardized tests focusing narrowly on the EMP recognized by international institutions due to the lack of availability. More general tests would be necessary to use; these, however, would not reflect the content taught. Existing standardized credit tests created by the Department of Languages at Charles University - Faculty of Medicine in Hradec Králové are used as scaffolding for the types of testing items and the time limit given for test completion. In addition, the Manual for Language Test Development and Examining (Council of Europe 2011) is followed for test construction. It was necessary to follow certain procedures when constructing the progress test in order to ensure validity; this was achieved by adhering to a standard procedure used at our Faculty.

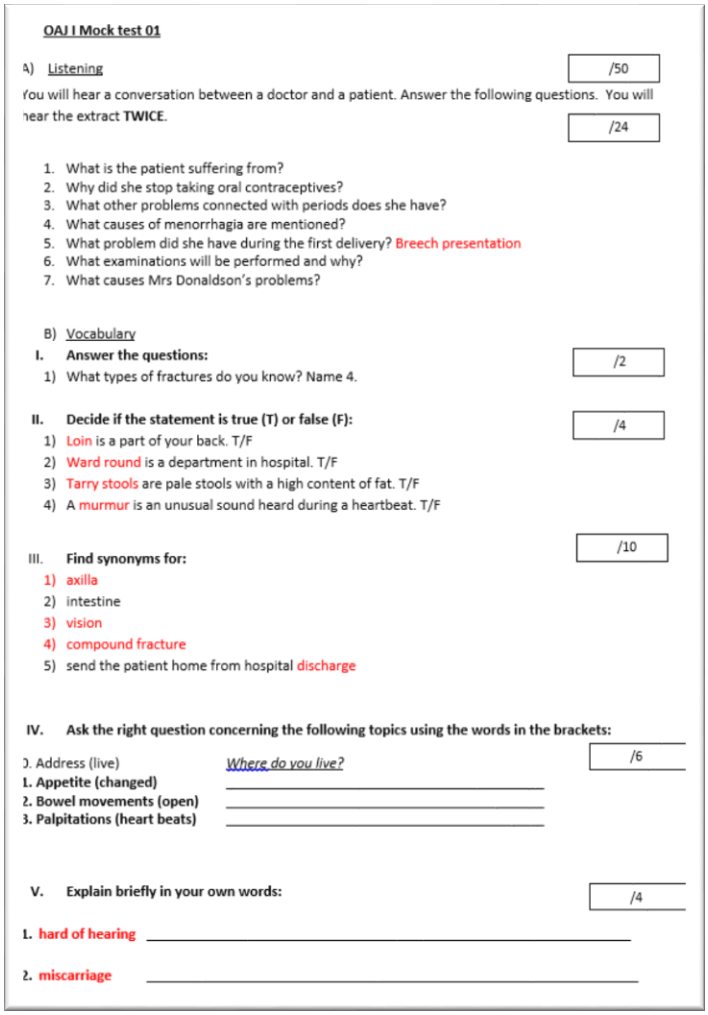
Procedure for constructing the progress tests

The first step when constructing a test is to clarify the main purpose of the test (Chrástka 2016: 188, Council of Europe 2011: 14, Pelikán 2007: 179). In our case, the purpose of the progress tests was to measure the effects of implemented activating methods on the acquisition of medical vocabulary documented in the 80-item list; the content of the progress tests was determined by the 80-item list as well. The second step was to define the content of the test in terms of the scope of the curriculum to be tested (Pelikán 2007:179). The next step was the choice of testing items. The four progress tests included a variety of open and closed questions assessed by colleagues involved in teaching Medical English. As far as the formal division is concerned, all four progress tests consisted of two parts - listening and lexical items. The listening consisted of closed dichotomy questions and/or open questions with short answers ranging from 3-8 items; the lexical part contained open questions with short answers in which students provided definitions, synonyms, hyponyms or meronyms, explained medical abbreviations, and created

questions in doctor-patient communication. There were also closed dichotomy questions such as true/false. The lexical part consisted of 13-23 items in total. Objections might be raised as to the number of items not being identical for all tests. The explanation is that some items were more demanding and/or time consuming than others; moreover, the volume of the material involved in each test differed.

The progress tests included a higher number of items (ranging from 19-29). However, only 11-15 items based on the research were evaluated due to the difficulty in creating material narrowly focused on research items from the 80-item list, particularly in listening comprehension. Listening comprehension items were based on one recording focusing on one topic, with several questions used. Though the 80-item list included 6 vocabulary items, only one was present in the listening.

The first progress test titled *OAJ I progress test 01* consisted of 22 items, out of which 11 items were included in the research measurement. These included one item focusing on listening comprehension in the form of an open question (receptive knowledge) and ten testing items focusing on lexical items. The make-up of these ten items was as follows: four closed dichotomy items (receptive), four open items in the form of a cloze exercise (productive), and two open production items for which students gave definitions of certain medical collocations (productive). Figure 48 offers an overview of the whole test, with the research items indicated in the red.



OAJ I Mock test 01

A) Listening /50

You will hear a conversation between a doctor and a patient. Answer the following questions. You will hear the extract **TWICE**. /24

1. What is the patient suffering from?
2. Why did she stop taking oral contraceptives?
3. What other problems connected with periods does she have?
4. What causes of menorrhagia are mentioned?
5. What problem did she have during the first delivery? Breech presentation
6. What examinations will be performed and why?
7. What causes Mrs Donaldson's problems?

B) Vocabulary

I. Answer the questions: /2

1) What types of fractures do you know? Name 4.

II. Decide if the statement is true (T) or false (F): /4

1) Loin is a part of your back. T/F
2) Ward round is a department in hospital. T/F
3) Tarry stools are pale stools with a high content of fat. T/F
4) A murmur is an unusual sound heard during a heartbeat. T/F

III. Find synonyms for: /10

1) axilla
2) intestine
3) vision
4) compound fracture
5) send the patient home from hospital discharge

IV. Ask the right question concerning the following topics using the words in the brackets: /6

). Address (live) *Where do you live?*
1. Appetite (changed) _____
2. Bowel movements (open) _____
3. Palpitations (heart beats) _____

V. Explain briefly in your own words: /4

1. hard of hearing _____

2. miscarriage _____

Figure 48: OAJ I progress test 01, with research items indicated in the red

Appendix 3 offers an overview of the complete set of progress tests.

All the remaining progress tests were of a similar length and contained similar types of testing items. Each test involved at least one item from the listening comprehension in the form of an open question used in the measurement (receptive knowledge). For the lexical part, both closed and open questions were included (receptive and productive knowledge). Closed questions included dichotomy questions (receptive knowledge), open questions with short answers involved cloze (such as providing synonyms, antonyms, or the meaning of medical abbreviation), and production items (giving definitions or questions to use when taking a history). The second *OAJ I progress test 02* contained 29 items, out of which 15 items were included in the research measurement. The third *OAJ II progress test 01* contained 16 items, out of which 12 items were included into the research measurement.

The fourth *OAJ II progress test 02* included 19 items, out of which 14 were included in the research. Table 2 offers an overview of all testing items in all progress tests.

Table 2: Overview of testing items in all progress tests, including research items

	OAJ I Progress test 01		OAJ I Progress test 02		OAJ II Progress test 01		OAJ II Progress test 02	
	Number of items	Number of research items	Number of items	Number of research items	Number of items	Number of research items	Number of items	Number of research items
Listening open questions	7	1	6	2	3	1	3	1
Production	1	0	2	0	1	1		
True /false	4	4	0	0				
Cloze	5	4	17	9	8	6	16	13
Making questions	3	0	2	1	2	2		
Definition	2	2	2	2	2	2		
In Total	22	11	29	14	16	12	19	14

For verification of the test, a difficulty index of *p* was calculated, with the 20%-80% range representing appropriate testing items (Chrástka 2016: 189, Pelikán 2007: 181). The items answered correctly by more than 80% of the respondents are not usually included in testing as they are regarded as extremely easy. However, these can be used at the beginning of the test for psychological reasons. Items answered correctly by less than 20% of respondents are considered extremely difficult and as such should not be used very often unless it is for specific research purposes (Pelikán 2007: 181). All measurements were conducted in the study year 2015-2016 within group B1 to ensure maximal homogeneity, except for one instance in which B2 was used due to unexpected cancelation of a B1 class. The measurement of the difficulty index *p* was calculated on a research sample of 10 participants.

The difficulty index in the first progress test titled *OAJ I progress test 01* showed that seven research items out of eleven were in the range of 20-80%. The item '*discharge'* had a *p* index of 10%, i.e. extremely difficult. However, it was not excluded from the test as it was practiced in activating teaching methods. The items '*hard of hearing'* and '*armpit'* with *p* index of 90% were considered extremely easy, therefore the items '*murmur*' and '*miscarriage*' (with a difficulty index of p = 50%) were added. Another item from the listening comprehension (*C-section)* was replaced by '*breech presentation'* on the 80-item list.

Table 3: Difficulty index p of the progress test OAJ I progress test 01

OAI I Progress test 01 items	Breech presentation	loin	ward round	tarry stool	armpit	vision	compound	discharge	hard of hearing	murmur	miscarriage
p index	60	80	80	50	90	70	40	10	90	50	50

The difficulty index in *OAJ I progress test 02* varied from 20-80% in 13 items out of 14. The item 'vision,' with a difficulty index of 90%, was used for psychological reasons.

Table 4: Difficulty index p of the progress test OAJ I progress test 02

OAJ I progress test 02	**womb**	**hot flushes**	**tarry stool**	**groin**	**hard of hearing**	**vision**	**discharged**	**murmur**	**dilate**	**breech**	**finger clubbing**	**optic disc**	**retractor**	**miscarriage**	**allergic to**
p index	70	80	50	80	50	90	80	60	20	30	60	70	20	80	70

The difficulty index in *OAJ II progress test 01* varied from 20-80% in 11 of the 12 items. The item '*blurry*' (*p*=90%) was an item from the listening comprehension exercise. It was not replaced due to the difficulty in finding adequate listening material that also tested the research items. It was placed at the beginning of the progress test and hence could be used for psychological reasons.

Table 5: Difficulty index p of the progress test OAJ II progress test 01

OAJ II progress test 01	**blurry**	**shingles**	**laceration**	**contrast medium**	**visual acuity**	**gullet**	**abrasion**	**muscle wasting**	**break out**	**dizzy**	**pressure sore**	**orifice**
p index	90	60	50	70	50	40	30	20	60	80	50	60

The *p* index in *OAJ II progress test 02* varied between 20-80% in 13 items out of 14. The item '*wipe off*' had a p value of 10% as it is a phrasal verb and many students chose the wrong preposition. Due to fact it was practiced in the activating methods, it was not replaced.

Table 6: Difficulty index p of the progress test OAJ II progress test 02

OAJ II progress test 02 items	**scales**	**wipe off**	**break out**	**tremor**	**foreign body**	**informed consent**	**nevus**	**dizziness**	**broken hip**	**anti-depressant**	**pressure sore**	**abrasion/laceration**	**NAD**	**c/o**
p index	70	10	20	60	80	40	50	80	80	30	60	70	50	80

The difficulty index showed that progress tests did not include many extremely easy or difficult items. If such items were present it was either for psychological reasons or due to special research purposes. The *p* index calculations can be found in the Appendix 4.

Pelikán (2007: 181) suggests another approach when analysing open questions. He states that open questions that are not answered correctly by 30-40% of students need further analysis of the causes. These might be the actual difficulty of the item, unclear formulation of the item, or inadequate time. In *OAJ I progress test 01,* '*discharge'* was answered by only 10% of the respondents; in *OAJ I progress test 02, 'dilate'* and *'retractor'* were solved by 20% of the respondents*;* in *OAJ II progress test 01, 'gullet'* by 40%, *'abrasion'* by 30, *'muscle wasting'* by 20%; and finally, *OAJ II progress test 02* involved items *'wipe off,'* solved by 10% of respondents, *'break out',* by 20%, and *'anti-depressant'* by 30%. The reasons for these numbers can be only speculated at. Perhaps there was interference of L1 in the item '*anti-depressant*.' Perhaps, at least in terms of synonyms, students tended to use one item exclusively rather than employ other words with the same meaning. For example, they would use 'release' (from hospital) exclusively rather than employ the synonymous expression 'discharge', or 'open' fracture exclusively rather than 'compound' fracture. Another reason for the low scores might be the unclear formulation of the items themselves, for example the open item in the form of a cloze in OAJ I Progress test 02: the item formulated as '*pathological loud heart sounds heard by a stethoscope'* was answered as '*palpitations'* instead of '*murmur'*. In cases of unclear formulations, the items were either replaced or reformulated. In the case of '*murmur'* it was changed to '*pathological loud heart sounds heard by a stethoscope in patients suffering from valve defects'.*

When constructing a test, another step is to verify the rate of test sensitivity, which means whether or not the test differentiates adequately (Pelikán 2007:181, Chrástka 2016: 180). A testing item with a high sensitivity is an item which is solved successfully by test takers with better language knowledge; test takers with worse language knowledge will have worse results on the particular item. When measuring test sensitivity, division of the research sample into two groups is necessary. Based on the test results, the research sample is sorted out ascendingly from the best score in the particular test to the lowest score. The research sample is then divided into two halves, potentially thirds. The upper half/third (showing better results) is considered the group with better language knowledge and the half/third at the bottom is

considered the group with worse language knowledge. Each item is then compared within both groups on the basis of the coefficient of sensitivity. Chrástka (2016: 181) suggests an upper-low-index indicated as ULI. The coefficient of sensitivity ULI can rank from -1 to +1. The higher the ULI coefficient value, the better the distinction between students with better and worse language knowledge, thus higher sensitivity. If the value of the ULI coefficient of sensitivity is 0, it does not differentiate between test takes with better and worse language knowledge. If the ULI coefficient shows a negative value, it means that the testing item favours test takers with worse language knowledge.

The ULI coefficient of sensitivity was measured on the research sample of 20 participants from the study year 2015-2016. Only the B1 group was included to ensure homogeneity, except for one instance in which B2 was used. The ULI within the first progress test (Table 7) showed positive figures, meaning all testing items were sensitive and therefore differentiated adequately.

Table 7: Coefficient of sensitivity ULI in the first test OAJ I Progress test 01

OAJ I Progress test 01 items	loin	ward round	tarry stool	armpit	vision	compound	discharge	hard of hearing
ULI index	d=0.2	d=0.1	d=0.5	d=0.1	d=0.4	d=0.1	d=0.6	d=0.1

The ULI coefficient of sensitivity within the second progress test was taken in the same study year (2015-2016). Group B2 only was involved as B1 did not complete the test due to cancelation of the classes on the day of testing. The small research sample (only 10 participants) was due to low attendance. The ULI coefficient of sensitivity showed a positive value in 13 of 15 items. The items *'murmur'* and *'miscarriage'* showed a negative value of *d = -0.2.* Before modification of the items, it was decided to re-measure the ULI coefficient in the consequent year. Measurement of the items *'murmur'* and *'miscarriage'* conducted in 2016-2007 (level B1) with a research sample of 20 participants showed a positive value of d=0.4. It was therefore decided to leave the item unchanged.

Table 8: Coefficient of sensitivity ULI in the first test OAJ I Progress test 02

OAJ I Progress test 02 items	womb	hot flushes	tarry stool	groin	hard of hearing	vision	discharged	murmur	dilate	breech	finger clubbing	optic disc	retractor	miscarriage	allergic to

ULI index	d=0,4	d=0,4	d=0,6	d=0,6	d=0,8	d=0,2	d=0,2	d= -0,2	d=0,4	d=0,4	d=0,6	d=0,6	d=0,2	d=-0,2	d=0,4

The ULI coefficient of sensitivity on the third progress test in 2015-2015 (B1 group) showed good sensitivity in all testing items. The same applied for the fourth progress test.

Table 9: Coefficient of sensitivity ULI in the first test OAJ II Progress test 01

OAJ II Progress test 01 items	blurry	shingles	laceration	contrast medium	visual acuity	gullet	abrasion	muscle wasting	break out	dizzy	pressure sore	orrifice
ULI index	d=0,1	d=0,5	d=0,5	d=0,8	d=0,6	d=0,7	d=0,2	d=0,2	d=0,7	d=0,3	d=0,5	d=0,3

Table 10: Coefficient of sensitivity ULI in the first test OAJ II Progress test 02

OAJ II Progress test 02 items	scales	wipe off	break out	tremor	foreign body	informed consent	nevus	dizziness	broken hip	anti-depressant	pressure sore	abrasion/ laceration	NAD	c/o
ULI index	d=0,4	d=0,3	d=0,3	d=0,5	d=0,4	d=0,3	d=0,4	d=0,4	d=0,4	d=0,5	d=0,7	d=0,4	d=0,7	d=0,5

The calculations of ULI index can be found in Appendix 5. The time limit for completing the test was set to 20 minutes as each progress test was approximately half of the content of the credit test (total time 40 minutes). For the same reason, all tests were evaluated at 50 points. The tests were given in paper versions and were distributed in the 7thand 9th week in the winter semester and in 6th and 8th week in the summer semester.

4.4.2. Credit test

Measuring the effects of student exposure to activating teaching methods was further realized by the final credit tests. The credit tests were included because those tests meet the requirements for standardized tests, such as several stages of verification procedure: testing conditions are clearly stipulated and announced to the testers and are used for repeated measurements for the whole population (Pelikán 2007: 174-175).

Credit test OAJ I tested student knowledge of the subject Medical English I in the winter term and credit test OAJ II the knowledge of the subject Medical English II in the summer term. The Manual for Language Test and Development and Examining (2011) was used as the main source when constructing the test.

Procedure for implemeneting research items into the existing credit tests

The main difference between the credit tests and the set of progress tests was the purpose behind them. The set of progress tests were specifically created to measure the effects of student exposure to activating teaching methods and the influence these methods have on vocabulary acquisition (documented in the 80-item list). The main purpose of the credit tests was to test the knowledge across the curriculum, not only knowledge of the research items. The credit tests existed prior to the research. In order to use the credit tests as an important tool for a comparable measuring of experimental groups and control groups, a certain number of items was replaced with research items, namely seven items in version A and nine in version C in the OAJ I credit test (40 items in total). Credit test OAJ II (39 items in total) included between nine and eleven research items for all four versions. The overview of research items incorporated within the credit tests is shown in Table 11.

Table 11: The overview of research items incorporated within the credit tests

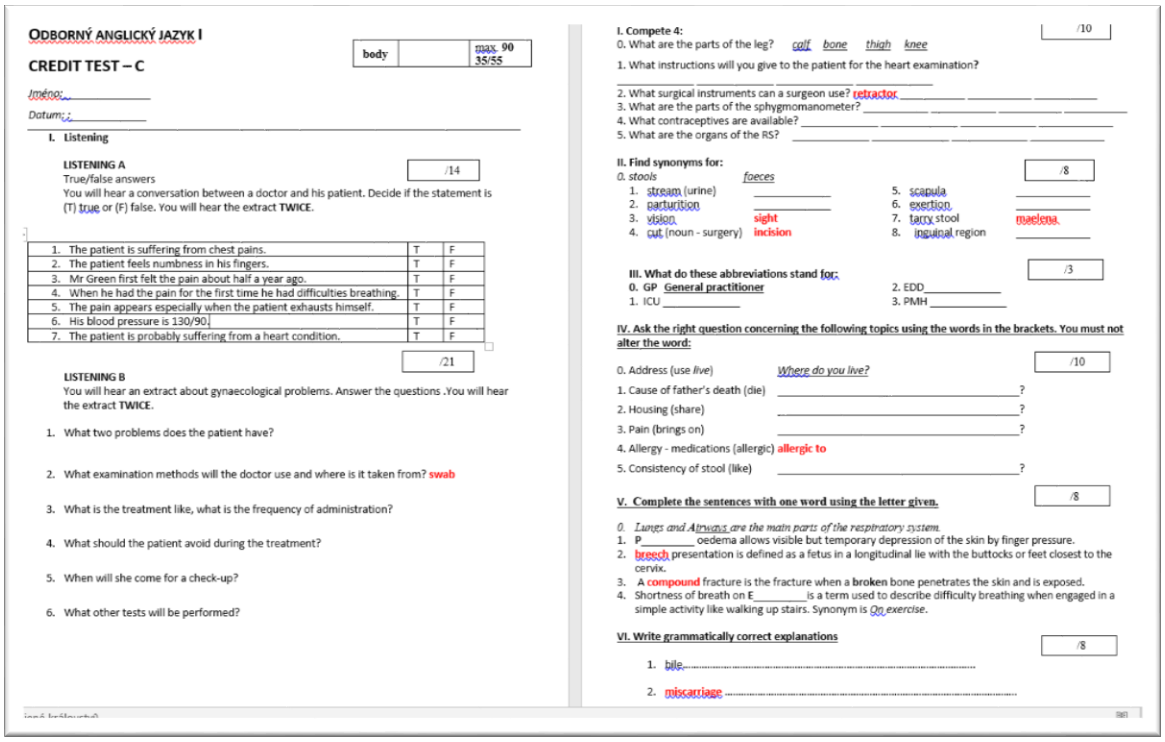
	OAJ I Credit test			OAJ II Credit test				
	Number of items in total	Number of research items in version A	Number of research items in version C	Number of items in total	Number of research items in Version A/A	Number of research items in Version A/B	Number of research items in Version B/A	Number of research items in Version B/B
Listening True/false	7			8				
Listening open questions	6		1	6	1	1		
Production	5	4	1	3	1	1	1	1
Cloze	15	3	5	20	9	8	9	8
Making questions	5		1	3				
Definition	2		1	0				
In Total	40	7	9	40	11	10	10	9

The credit tests consisted of three parts, part one focusing on listening comprehension, part two on lexical acquisition, and part three on reading comprehension. The content of the credit test was determined by the curriculum shown in Chapter 4.1.3. Because the experiment measured the effects of implementing activating teaching methods on vocabulary acquisition documented in the 80-item list, only the replaced research items included in the credit tests will be described in more detail. The items tested included both receptive and productive knowledge; listening comprehension items comprised receptive knowledge only. However,

some listening comprehension exercises from the closed listening databank did not include any research items, which created an imbalance due to the lack of receptive knowledge items. Regarding productive knowledge, the tasks included were:

- cloze items for hyponyms or meronyms (e.g. answer: *What are the parts of the leg* = *calf, knee, thigh, foot)*;
- cloze items for synonyms or antonyms (e.g. find synonyms for: *vision* = *sight*);
- open items to make questions related to a patient's history (e.g. ask the right question concerning the following topic using the words in brackets without altering the word**:** *Allergy - pollen (allergic)* = *Are you allergic to pollen*?);
- cloze items to complete statements with missing words (e.g. complete the sentence with one word using the letter given: *A **c**ompound fracture occurs when a broken bone penetrates the skin.*);
- freely producing items to provide definitions (e.g. write a grammatically correct explanation: *miscarriage* = *the spontaneous, premature expulsion of an embryo or fetus from the uterus, also called spontaneous abortion)*.

For the credit tests measuring the effects of implementing activating methods in the winter period, two versions were created. Version A included seven research items; version B had nine 9 research items in the form of open questions (either as a cloze or production item). Figure 49 offers an overview of the winter credit test, including the research items colour-coded (in red).



ODBORNÝ ANGLICKÝ JAZYK I

CREDIT TEST – C

body | max. 90 35/55

Jméno:

Datum:

I. Listening

LISTENING A /14

True/false answers

You will hear a conversation between a doctor and his patient. Decide if the statement is (T) true or (F) false. You will hear the extract TWICE.

1. The patient is suffering from chest pains.	T	F
2. The patient feels numbness in his fingers.	T	F
3. Mr Green first felt the pain about half a year ago.	T	F
4. When he had the pain for the first time he had difficulties breathing.	T	F
5. The pain appears especially when the patient exhausts himself.	T	F
6. His blood pressure is 130/90.	T	F
7. The patient is probably suffering from a heart condition.	T	F

/21

LISTENING B

You will hear an extract about gynaecological problems. Answer the questions .You will hear the extract TWICE.

1. What two problems does the patient have?
2. What examination methods will the doctor use and where is it taken from? swab
3. What is the treatment like, what is the frequency of administration?
4. What should the patient avoid during the treatment?
5. When will she come for a check-up?
6. What other tests will be performed?

I. Compete 4: /10

0. What are the parts of the leg? calf bone thigh knee
1. What instructions will you give to the patient for the heart examination?
2. What surgical instruments can a surgeon use? retractor
3. What are the parts of the sphygmomanometer?
4. What contraceptives are available?
5. What are the organs of the RS?

II. Find synonyms for: /8

0. stools faeces
1. stream (urine)
2. parturition
3. vision sight
4. cut (noun - surgery) incision
5. scapula
6. exertion
7. tarry stool melena
8. inguinal region

III. What do these abbreviations stand for: /3

0. GP General practitioner
1. ICU
2. EDD
3. PMH

IV. Ask the right question concerning the following topics using the words in the brackets. You must not alter the word: /10

0. Address (use live) Where do you live?
1. Cause of father's death (die) ?
2. Housing (share) ?
3. Pain (brings on) ?
4. Allergy - medications (allergic) allergic to
5. Consistency of stool (like) ?

V. Complete the sentences with one word using the letter given. /8

0. Lungs and Airways are the main parts of the respiratory system.
1. P_____ oedema allows visible but temporary depression of the skin by finger pressure.
2. breech presentation is defined as a fetus in a longitudinal lie with the buttocks or feet closest to the cervix.
3. A compound fracture is the fracture when a broken bone penetrates the skin and is exposed.
4. Shortness of breath on E_____is a term used to describe difficulty breathing when engaged in a simple activity like walking up stairs. Synonym is On exercise.

VI. Write grammatically correct explanations /8

1. bile
2. miscarriage

Figure 49: Winter OAJ I credit test version C

All credit tests were of similar length and included a similar number of testing items. For more versions of the credit test, see Appendix 6.

To ensure validity, the difficulty index *p* was calculated in items where the *p* index had not been calculated in progress tests. The B1 group from the study year 2015-2016 was included to ensure homogeneity. For the OAJ I credit test, the *p* index for both versions is shown in Table 12.

Table 12: The difficulty index for research items in the winter OAJ I credit test

OAJ I credit test version A and C - research items	curl up	gripping pain	pass away	swab	incision
p index	10	20	60	50	60

In the OAJ I credit test, only one item (*curl up)* showed a *p* index of 10, meaning it was considered extremely difficult. However, this item was in the form of a cloze test where students could use a variety of possible answers, in which 'curl up' was one such possibility. The item was thus left in the test unchanged.

The OAJ II credit test included between 9 and 11 research items in all versions. The difficulty index *p* was calculated and is shown in Table 13.

Table 13: The difficulty index for research items in summer OAJ II credit test

OAJ II credit test – research items	broken hip	tingling or dizziness	gait	scab	wiped off	tingling	cross-sectional	the pill	incised wound	get rid of	wiped off	flaccidity	seizure	excise
p index	100	30	10	90	80	90	50	70	45	10	60	50	80	100

A difficulty index ranging between 20-80% was found in 8 of 15 items. The items '*gait'* and '*get rid of*' were considered extremely difficult. However, phrasal verbs in the progress test showed a lower difficulty index. The item '*gait'* was in the form of a cloze and gave students more options. The remaining items ('*broken hip', 'scab', 'tingling',* and *'excise')* were considered extremely easy. However, we compared the difficulty index of certain items which were used both on the progress and credit tests (e.g. *muscle wasting*) and found that the *p* values for those items were much lower on the progress tests (p = 20) than on the credit tests (p = 90). One explanation might be the purpose of the credit test, which is to test student knowledge across curriculum. Since failure results in having to repeat the whole test, students prepare well in order to avoid any consequent retakes.

For the credit testing items whose ULI coefficient of sensitivity was not calculated in progress tests, the ULI index is presented in Tables 14 and 15.

Table 14: ULI coefficient of sensitivity of research items used on OAJ I credit test

OAJ I credit test research items	curl up	gripping pain	pass away	swab	incision
ULI index	d=0.1	d=0	d=0.5	d=0.4	d=0.5

The item '*gripping pain'* with a ULI coefficient of 0 indicated that the item did not differentiate between the groups of students with better or worse knowledge. However, this was a production item where students had more possibilities to answer correctly. They could have used expressions such as '*squeezing'* or '*gnawing'* pain.

Table 15: ULI coefficient of sensitivity of research items used on OAJ II credit test

OAJ II credit test – research items	gullet	broken hip	tingling or dizziness	gait	scab	wiped off	tingling	cross-sectional	the pill	incised wound	get rid of	flaccidity	seizure	excise
ULI index	d=0.15	d=0.1	d=0.1	d=0.2	d=0.2	d=0.3	d=0.4	d=0.3	d=0.1	d=0.45	d=0.2	d=0.5	d=0.2	d=0.2

All the items from credit test OAJ II showed a positive ULI coefficient, meaning the items differentiated adequately.

The time limit for completing the test was 40 minutes. The test, evaluated at 100 points and given in paper versions, was completed in the last lesson.

Preparing the credit tests for research usage revealed certain discrepancies. The first discrepancy was the absence of a listening comprehension research item in some versions due to the limited number of listening comprehension exercises. Such imbalance in versions might have made the credit tests unreliable. Another problem might have been the purpose of the test itself as students generally prepare for credit tests well in order to avoid failure and consequent retakes. This might bias the results, making it difficult to know if the acquisition of professional vocabulary was facilitated by student efforts at self-study or by the activating teaching methods themselves. These occurrences call into question the role that credit tests can have as research tools.

4.4.3. Short-from evaluation questionnaires

The supplementary objective of the research was to find out student opinion on the implemented activities employing activating teaching methods. A short-form evaluation questionnaire for 15 activities employing activating teaching methods was created involving questions concerning the overall evaluation of the activity and the main benefits. A very concise version was chosen in order to paralyze negative aspects of the questionnaire, such as excessive length leading to random completion without thinking (Pelikán 2007: 106). Another negative aspect in questionnaires mentioned by Chrástka (2016: 164) is the choice of questions. Students sometimes try to predict which answers are expected and complete the questionnaire accordingly. In light of this, the short-form evaluation questionnaire included questions evaluating the activity as a whole and targeted student opinion concerning likes and dislikes. There were also questions concerning the main benefits of activating teaching methods: the potential to make the lesson interesting and help students acquire professional vocabulary, improve speaking, or practice grammar. Finally, the open question concerning advantages and disadvantages of the particular activity provided students with enough space to express themselves freely. Figure 51 shows a sample of the short-form evaluation questionnaire.

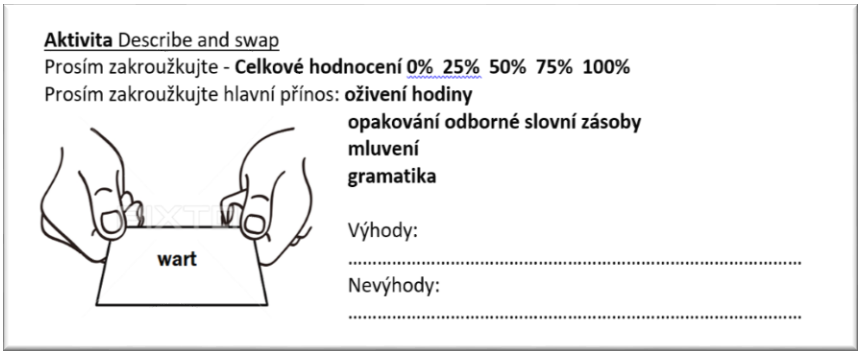


Figure 51: Short-form evaluation questionnaire concerning the activity Describe and Swap

The short-form evaluation questionnaires were distributed in paper form to ensure a maximal return rate and were distributed at the end of each class so that the particular activity was well remembered.

4.4.4. Evaluation questionnaire

The aim of the evaluation questionnaire was to obtain data concerning the activating teaching methods. These included evaluating the teacher in terms of choice of methods and focus on language skills and professional vocabulary. Students had the opportunity to indicate favourable and unfavourable activities and add suggestions for course improvement.

The questionnaire consisted mostly of closed parametric questions and created a continuum from one pole of answers to the other pole (Pelikán 2007: 108). For study years 2015-2017, the following parametric versions of percentage were used: '*0% - 25% - 50% - 75% - 100%*'. However, some students had difficulties understanding what these figures precisely indicated and thus these parametric versions were changed for the study year 2017-2018 to '*no – probably not – probably yes – yes – I don't know'.* Another change concerned the activating teaching methods. In study years 2015-2017, the only question focusing on the activating teaching methods was one open question concerning the choice of activities regarded as favourable or unsatisfactory. In the study year 2017 – 2018, two parametric questions were added focusing on activating teaching methods directly. One question dealt with overall benefit, the other focused on particular spheres in order to support or refuse the hypotheses concerning vocabulary acquisition and/or motivation. Apart from the closed parametric questions, the questionnaire also contained two open questions. One (concerning the favourable and unsatisfactory activities) was mentioned above, the other one asked for suggestions for improvement. Such questions are difficult

to process statistically. However, they offer a broad array of possible answers and do not limit the respondents in any manner (Pelikán 2007:108; Gavora 2010:126). The evaluation questionnaire is shown in Figure 52.

EVALUAČNÍ DOTAZNÍK 2017/2018

Dovoluji si Vás požádat o vyplnění následujícího dotazníku. Účelem dotazníku je zkvalitnění výluky předmětu Odborný anglický jazyk a je také podkladem disertační práce. Dotazník trvá maximálně 10 minut. Vaše odpovědi poskytnou důležité informace vedoucí ke zkvalitnění výuky odborného anglického jazyka.

- prosím**, zakroužkujte** vaše odpovědi nebo odpověď **napište** do textového pole.**:**

Výběr aktivit a metod učitele byl adekvátní:	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	**Návrhy na zlepšení:**
Učitel se adekvátně zaměřila na						**Návrhy na zlepšení:**
• **odbornou terminologii**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
• **řečovou dovednost mluvení**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
• **řečovou dovednost poslechu**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
• **řečovou dovednost čtení**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
Aktivizační metody (hry na opakování slovní zásoby, dialogy lékař pacient) byly přínosné:	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	**Návrhy na zlepšení:**
Aktivizační metody (hry na opakování slovní zásoby, dialogy lékař pacient) adekvátně						**Návrhy na zlepšení:**
• **oživily hodinu**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
• **napomohly k osvojení odborné slovní zásoby**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
• **procvičily řečovou dovednost mluvení**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
• **zvýšily motivaci k další práci**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
• **navodily přátelskou atmosféru**	**Ne**	**Spíše ne**	**Spíše ano**	**Ano**	**Nevím**	
Které aktivity byly:			**Velmi dobré:**			**Nevyhovující:**
Návrhy na zlepšení:						

Děkuji za vyplnění dotazníku

Figure 52: Evaluation questionnaire

The evaluation questionnaire conducted in study years 2015-2017 is provided in Appendix 7.

The evaluation questionnaire was distributed in paper form to ensure maximal return rate. It was handed out during the penultimate week rather than the credit week to minimize the risk of test results influencing student response. In order to avoid any possible confusion, the questionnaire was in Czech.

5. Results

5.1. Pre-research

The implementation of the activating teaching methods was piloted in the academic year 2014-2015, during which period the activating teaching methods to be used were decided upon: didactic games, situation games, and role-plays in the form of warm-up activities revising the content of previous lesson. The 80-item list was initiated and completed throughout both semesters. However, as it took both semesters to compile the 80-item list, the progress tests themselves (the primary means of performing the measurements) were not carried out until the following academic year.

We tested a student needs analysis and evaluation questionnaire. We tried to determine whether or not these research instruments were adequate in terms of length and clarity. The pre-research was conducted under regular school conditions. The student needs analysis questionnaire was completed by 53 participants, 51 participants filled in the evaluation questionnaire.

5.1.1. Pre-research student needs analysis

In the pre-research carried out in 2014 and 2015, 53 participants completed the student needs analysis questionnaire, thus providing data relevant to the course content. The questionnaire was anonymous. It was divided into two parts: part one included identification questions (gender and study year) and questions concerning the previous studies; part two included questions concerning medical topics, language skills and components, and preferred interaction. The resulting data were interesting and at times even unexpected. As the frequency of responses differed in all the study years, the results are presented in percentage figures to achieve maximal clarity. However, both absolute and percentage figures are presented in the tables.

Regarding part one, the most important information obtained from the questionnaire included student views on any previous English courses they may have had and what they found beneficial and unbeneficial. The most frequent responses concerning the positive aspects of previous English courses were adequate grammar and vocabulary practice, both positively evaluated by 11% of respondents. 9% of respondents indicated they liked the personality of their teacher and the same number mentioned conversation practice as a

positive. 4% of respondents appreciated writing assignments, reading, the topics studied, listening, active instruction, and the tests. Other aspects mentioned were having a native speaker, group work, the amount of weekly lessons, the textbook used, supplementary materials, films, revision, translations, and absence of homework. The dislikes were as follows: insufficient conversation (mentioned by 28% of respondents); a substandard teacher (15% of respondents); lack of listening, overly large groups, teacher rotation, organization of the instruction, and poorly explained grammar were noted by 6% of respondents, respectively; 4% of respondents saw a negative aspect in not enough vocabulary, the absence of a native speaker, testing procedures, the textbook, monotony of exercises and topics, and homework. Other aspects mentioned (2% of respondents) were minimal practical application of the language learnt, overly ambitious vocabulary demands, failure to notice improvement, and lack of ESP. The identification question concerning the study year proved unnecessary as all students came from the 3rd study year.

Part two of the questionnaire focused on the ongoing course of Medical English, specifically medical topics, language skills and components, and preferred interaction. Table 16 presents the frequency of single responses.

Table 16: Frequency of responses in part 2 of the student needs analysis questionnaire (2014-2015)

Question	Sphere	2014-2015 results, no of preferences (%)
Number of respondents		53
In what vocabulary areas would you like to improve?	Body systems	38 (72)
	Diagnostics	49 (92)
	Treatment	47 (87)
	Ethics in medicine	29 (55)
	Doctor-patient communication	46 (87)
	Taking a history	42 (79)
	Lifestyle	25 (47)
	Physical examination	41 (77)
	Telephoning	28 (52)
	Presentations	39 (74)
	Research	27 (51)
	Others	5 (9) EGP
What language components and skills would you like to improve?	Grammar	31 (58)
	speaking	45 (85)
	writing	19 (36)
	listening	38 (72)
	Professional terminology	-
	Others	1 (2) (reading)
What kind of interaction do you prefer	Individual work	15 (28)
	Pair work	32 (60)
	Group work	26 (49)

	Whole class interaction	10 (19)
	Simulating Doctor-patient dialogues	11 (21)
	IRF interaction	17 (32)
	Quizzes	8 (15)
	Projects	4 (8)

As far as lexical terminology was concerned, 92% of respondents were willing to work on diagnostics, followed by 87% of respondents favouring treatment. 87% of respondents preferred doctor-patient communication, 79% of participants taking a history, 77% instructions for physical examination, 74% wanted to work on their presentation skills, and 72% wanted to improve knowledge of bodily systems. Topics that students found less appealing were phone skills (52% of respondents), research (51%), and lifestyle (47%). Students (9%) also mentioned topics concerning English for General Purposes.

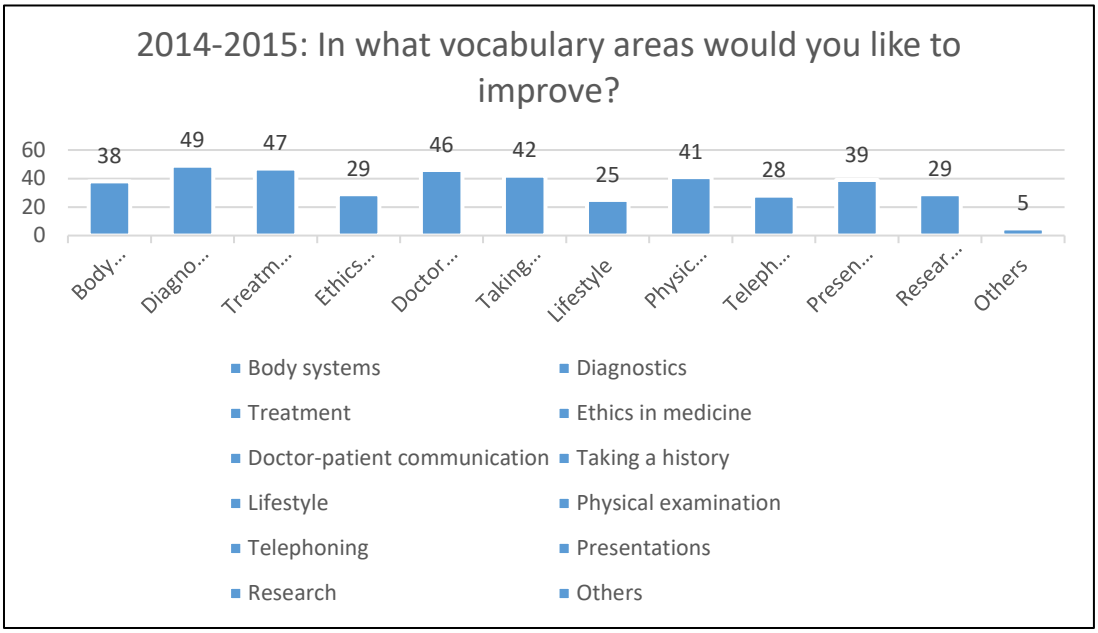


Figure 53: Frequency of responses concerning the professional vocabulary (2014-2015)

As for language skills and language components, student interest in improving speaking skills totalled 85%. That was followed by listening skills at 72% and writing at 36%. 58% of participants indicated grammar as a language component deserving attention. Only 4% of respondents showed interest in professional vocabulary, which might seem disappointing. However, it may result from language skills and grammar being mentioned explicitly, while professional vocabulary was not. We subsequently modified this question to include not only language skills and grammar but professional vocabulary as well.

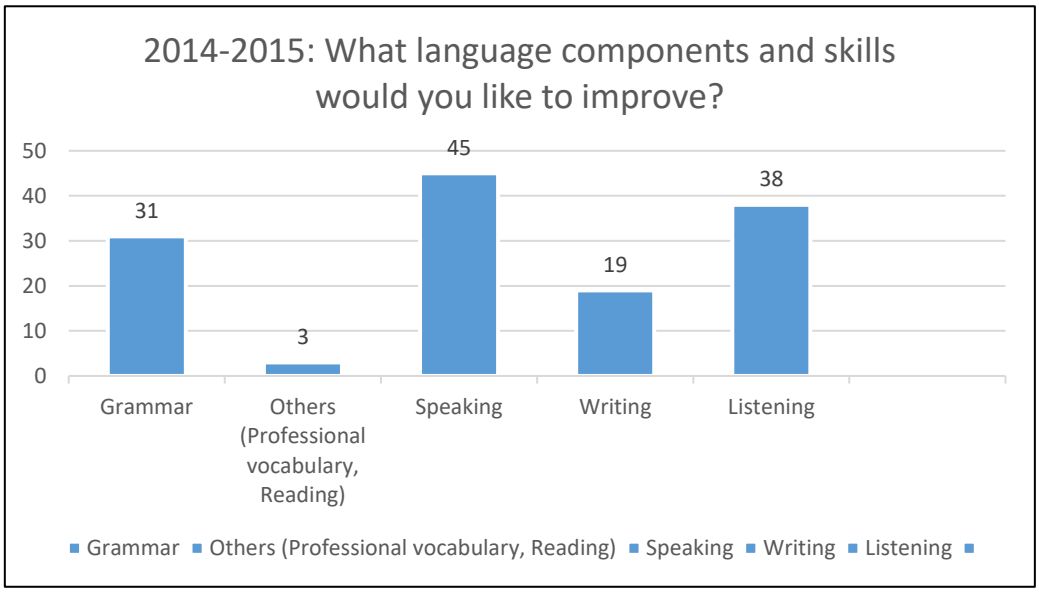


Figure 54: Frequency of responses concerning the language components and skills (2014-2015)

The final part of the questionnaire concerned the classroom interaction. The high preference for pair work was unexpected. 60% of respondents marked it as the most popular form of classroom interaction. Group work followed in popularity with 49%. 32% of students preferred traditional teacher-fronted interaction, while 28% showed a preference for individual work. Surprisingly, only 7% of participants chose projects as their favourite activity.

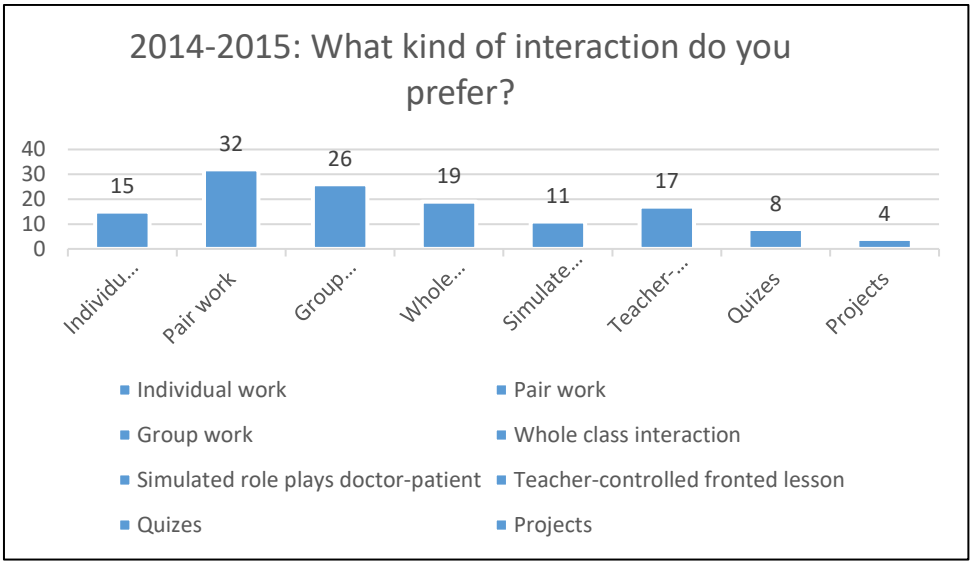


Figure 55: Frequency of responses concerning the interaction (2014-2015)

The student needs analysis and the data it provided (positive evaluation of vocabulary practice and conversation practice in previous classes, willingness to work on professional

vocabulary, the need to improve speaking skills, and the popularity of pair/group work) prompted our language department to implement the activating teaching methods in classroom instruction, thus allowing us to observe their influence on the acquisition of professional vocabulary.

5.1.2. Pre-research evaluation questionnaire

On completion of the course, the students were given the evaluation questionnaire. Questionnaire items were: the parametric questions concerning the choice of teaching methods and activities; the scaled question focusing on speaking, listening, and medical vocabulary; and the open questions concerning beneficial versus unbeneficial activities performed in the classroom. Students were also given the chance to suggest ways in which the course could be improved. The questionnaire was distributed in paper form on the 8th week of the summer term to the B2 level group first; the results were the first analysed.

To start with, B2 respondents were satisfied with the choice of teaching methods and activities. 59% of respondents were completely content, 23% of respondents content with minor objections, 14% somewhat content, 5% dissatisfied.

Table 17: Frequency of answers at the B2 level concerning the choice of methods and activities

Question	Percentage 0	Percentage 25	Percentage 50	Percentage 75	Percentage 100
The teacher's choice of methods and activities	1 (5%)	0	3 (14%)	5 (23%)	13 (59%)

Regarding the focus on language skills and professional vocabulary from the student needs analysis, 54% of respondents indicated that the teacher focused on the language skill speaking, 41% of respondents indicated the language skill listening, and 73% marked professional vocabulary.

Table 18: Frequency of answers at the B2 level concerning the focus on speaking, listening and professional vocabulary

Question	Speaking	Listening	Professional vocabulary
The teacher's focus on	12 (54%)	9 (41%)	16 (73%)

Although difficult to analyse statistically, open questions concerning the beneficial activities implemented within the instruction revealed very interesting data. 64% of respondents placed vocabulary games as the most favourable activities; 23% of respondents mentioned pair work activities. Other helpful activities mentioned by students were speaking (5%) and competitions (5%). Very frequently, students named concrete examples of the activating teaching methods that they deemed profitable, such as 'Risk', 'Crossword' 'Ping-pong', etc.

Table 19: Frequency of Answers at the B2 level concerning the beneficial activities

Question	Vocabulary games	Pair work	Group work	Speaking	Competitions
Which activities were very good	14 (64%)	5 (23%)	1 (5%)	1 (5%)	1 (5%)

Students were also given the chance to indicate which activities they found unbeneficial. However, few respondents did so. Vocabulary games and presentations were both marked by 9% of respondents. Whole class interaction was mentioned once (5%), as was text memorization tasks. One student expressed dissatisfaction with the speed of certain recordings used for the listening comprehension exercises.

Table 20: Frequency of answers at the B2 level concerning the unbeneficial activities

Question	Vocabulary games	Presentations	Whole class interaction	Fast recordings	Memorization of tests
Which activities were unsatisfactory	2 (9%)	2 (5%)	1 (5%)	1 (5%)	1 (5%)

Suggestions for course improvement included grammar; 23% of respondents would have preferred a stronger grammatical component to the course. 14% of respondents wanted more intensive focus on listening comprehension. Some individual suggestions (5% each) included more intensive focus on speaking, making homework and attendance compulsory, slower pacing of the instruction, inclusion of EGP, and less intensive focus on medical terminology.

Table 21: Frequency of answers at the B2 level concerning suggestions for improvement

Question	Inclusion of Grammar	More listening	More speaking
Suggestions for improvement	5 (23%)	3 (14%)	2 (5%)

The questionnaire showed that modifications were necessary. The scaled question concerning teacher-focus on speaking, listening, and professional vocabulary was changed

to a set of parametric questions in an attempt to obtain a higher degree of specificity. This newly altered questionnaire was then used for the B1 level.

Results were as follows: 31% of respondents were completely satisfied with the choice of methods and activities implemented by the teacher; 62% of respondents were satisfied, albeit with minor objections. For the focus on the language skills and medical terminology, see the frequency of answers at the B1 level provided in Table 22.

Table 22: Frequency of responses of closed parametric questions of B1 level.

Question	Percentage 0	Percentage 25	Percentage 50	Percentage 75	Percentage 100
The teacher's choice of methods and activities	0	0	0	18 (62%)	9 (31%)
The teacher's focus on speaking	0	3 (10%)	10 (34%)	9 (31%)	4 (14%)
The teacher focus on medical terminology	0	2 (7%)	2 (7%)	11 (38%)	15 (52%)

For open questions concerning which activities students found beneficial and unbeneficial, no answer choices were provided. Instead, students were encouraged to answer in their own words.

76% of respondents indicated activating teaching methods as beneficial. 59% of respondents appreciated vocabulary games, 7% noted competitions. Discussions, dialogues, and presentations were also mentioned (3% each). Apart from the activating teaching methods, group work was popular (24% of responses). Listening was favoured in 21% of responses. Other profitable activities mentioned were mock tests (3%).

Table 23: Frequency of answers of B1 level concerning the favourable activities

Question	Activating teaching methods	Group work	Listening	Progress tests
Which activities were very good	22 (76%)	7 (24%)	6 (21%)	1 (3%)

Unbeneficial activities were selected by only a few respondents. These included reading of texts (mentioned by 7% of respondents), texts from the core textbook (3%), presentations (3%), and vocabulary games (3%).

Table 24: Frequency of answers at the B1 level concerning the unbeneficial activities

Question	Reading of texts	Textbook texts	Presentations	Vocabulary games
Which activities were unsatisfactory	2 (7%)	1 (3%)	1 (3%)	1 (3%)

Similar to the questionnaire responses at the B2 level, 7% of respondents would have preferred focusing more on grammar, 10% of respondents would have appreciated a greater emphasis on listening comprehension exercises. Some individual suggestions (3% each) included more interesting texts, more intensive work on pronunciation, less group work, and dissatisfaction with the language skills of partners during pair work activities.

Table 25: Frequency of answers at the B1 level concerning suggestions for improvement

Question	More listening	Inclusion of Grammar
Suggestions for improvement	3 (10%)	(7%)

5.1.3. Implications of the findings for the study of the activating teaching methods

The pilot study showed that the research instruments to be used (student needs analysis and evaluation questionnaire) required only minor changes. For the most part, the questionnaire items proved well phrased and were easily understood by students. In the pilot study, 15 activating teaching methods were selected (didactic games, situation games, and role-plays) and used for revising medical vocabulary from previous lessons or practising doctor-patient communication. The 80-item list was completed, which set the vocabulary content of the activating methods created for the experimental groups. Two sets of activating teaching methods could then be finalized, one for the experimental group (including vocabulary from the 80-item list), the other for the control groups (excluding any words from the 80-item list). In addition to the credit tests, four progress tests were constructed. These would serve as an important tool for comparing and measuring experimental groups and control groups. Concise short-form questionnaires were also

created in order to gauge student opinion on particular activating teaching methods. Both the evaluation questionnaire and short-form questionnaires were in Czech to prevent any misunderstanding.

5.2. Study on the activating teaching methods

The research was conducted in the academic years 2015-2017 in both the winter and the summer term, in 2017-2018 in the winter term only. Throughout those years, activating teaching methods (didactic games, situation games, and role-plays) were implemented at the beginning of each lesson. The main objective of those methods was to retrieve and use generatively vocabulary covered in the previous lessons. One set was used for the experimental group (including vocabulary from the 80-item list), the other set for the control group (excluding any words from the 80-item list). Those sets comprised the same activities differing in the vocabulary content (see Chapter 4.2.3.). Quantitative and qualitative research methods and data collection techniques were used in order to obtain figures for verification of the hypotheses, meaning we calculated statistically significant differences in the acquisition of medical vocabulary between experimental groups and control groups based on the data we obtained. We also supplemented these figures with questionnaires to ascertain student attitude toward the activating teaching methods.

When constructing tests and questionnaires, we adhered to standard procedures in order to ensure the validity of the research. As mentioned in previous chapters, students were not assigned to groups randomly but rather grouped according to their results on the placement test. The terms external and internal validity perhaps need elucidation.

Internal validity means that the research allows for unambiguous interpretation of the results. Campbell (1957: 297-312 qtd. in Pelikán 2007: 63) states that internal validity can be negatively influenced by an array of external variables entering the research process unpredictably. These include specific events occurring between two measurements, such as rotation of teachers, change of teaching plan, the flow of time as the research sample matures, previous experience on the part of the research subjects, change of standardisation of the measurement techniques, non-randomized research sample, and mortality, which can alter the number of subjects within groups. Certain aspects were eliminated by the fact that research was conducted by one experimenter; and a certain

degree of randomisation can be seen in the choice of which group was the experimental and which the control.

External validity deals with the extent to which the results derived from a particular research situation can be applied to other situations (Gavora 2010: 89, Hendl 2006: 50). According to Kalous (1983: 27 qtd. in Pelikán 2007: 65), external validity can be divided into population validity (regarding the research sample) and ecologic validity. Population validity means applying the research results to a certain population represented by a research sample. Ecologic validity concerns the influence of the research setting on both the research itself and the interpretation of the results attained. Factors contributing to ecologic validity include the work environment, the time of day and the season in which the research is conducted, the length of research techniques (the time needed to complete the questionnaires), the influence of the experimenter's personality, and the motivation of the participants. As the instruction of the experimental groups and control groups was carried out under the same conditions, the opportunity for these factors to impact on the study was greatly minimised; the research was conducted in the same classroom and the groups were instructed at roughly the same time of day.

5.2.1. Student needs analysis

To obtain sufficient data concerning the previous and ongoing course, we needed a broad number of participants to complete the student needs analysis questionnaire. We ended up having 193 participants over 3 academic years: 77 participants in 2015-2016; 63 in 2016-2017; 53 in 2017-2018.

As far as part one of the student needs analysis questionnaire is concerned, the most important information obtained dealt with the previous courses, i.e. what students appreciated and disliked. This area was included as it could provide data on whether activating teaching methods were included and what student opinion on these methods was. Data obtained from the questionnaires indicated the following: the most appreciated aspect of the previous courses was the classroom focus on speaking (indicated by 16% of students in 2015-2016, by 24% in 2016-2017, and by 28% in 2017-2018). Other commonly appreciated aspects of the course included grammar practice (mentioned by 9% of students in 2015-2016 and by 23% in 2017-2018) and the personality of the teacher (mentioned by 9% in 2015-2016, by 16% in 2016-2017, and by 8% in 2017-2018). Evidence

for the need to utilise activating teaching methods can be found in the positive reaction students had to the following: pair work and group work, the dialogues, variability in the lessons, and friendly atmosphere. The frequency of responses is shown in Table 26.

Table 26: Frequency of responses 2015-2018 in student needs analysis questionnaire part 1 concerning positive aspects of the previous course

What you liked about the previous course	2015-2016 No of respondents (%)	2016-2017 No of respondents (%)	2017-2018 No of respondents (%)
Films	1 (1%)	0	0
Focus on grammar	7 (9%)	10 (16%)	12 (23%)
Focus on listening	0	3 (5%)	3 (6%)
Focus on pronunciation	1 (1%)	0	0
Focus on reading	0	1 (2%)	4 (8%)
Focus on speaking	12 (16%)	15 (24%)	15 (28%)
Focus on vocabulary	4 (5%)	3 (5%)	8 (15%)
Focus on writing	0	1 (2%)	1 (2%)
Frequency of lessons	5 (6%)	2 (3%)	2 (4%)
Friendly atmosphere	2 (3%)	3 (5%)	1 (2%)
Games	1 (1%)	1 (2%)	1 (2%)
Group work	2 (3%)	2 (3%)	0
Interactive classes	0	1 (2%)	1 (2%)
Materials	0	0	1 (2%)
Native speaker	4 (5%)	3 (5%)	3 (6%)
Organization of the instruction	0	2 (3%)	0
Pair work	2 (3%)	3 (5%)	1 (2%)
Preparation for exams	0	1 (2%)	1 (2%)
Presentations	1 (1%)	0	0
Projects	0	0	1 (2%)
Small groups	4 (5%)	3 (5%)	2 (4%)
Songs	0	1 (2%)	0
Teacher	7 (9%)	10 (16%)	4 (8%)
Testing procedures	0	0	1 (2%)
Textbook	1 (1%)	4 (6%)	0
Topics	1 (1%)	2 (3%)	1 (2%)
Translation	0	1 (2%)	1 (2%)
Variability	4 (5%)	3 (5%)	0
Videos	0	0	1 (2%)

As in the pre-research, the dislikes were represented by not enough speaking (mentioned by 25% of respondents in 2015-2016, by 20% of respondents in 2016-2017, and by 17% of respondents in 2017-2018). The next most mentioned complaints were excessive focus on grammar (13% of respondents in 2015-2016), personality of the teacher (17% of respondents in 2016-2017), and homework assignments (11% of respondents in 2017-2018). Other aspects indicating the need for activating teaching methods were monotony of exercises and topics, unfriendly atmosphere, and IRF interaction.

Table 27: Frequency of responses 2015-2018 in student needs questionnaire part 1 concerning negative aspects of the previous courses

What you disliked about the previous course	2015-2016	2016-2017	2017-2018
Absence of native speaker	1 (1%)	0	2 (4%)
Essays	1 (1%)	0	0
Evaluation	0	0	1 (2%)
Excessive focus on exams	0	1 (2%)	0
Excessive focus on grammar	8 (10%)	3 (5%)	2 (4%)
Excessive focus on vocabulary with no future practical use	2 (2%)	2 (3%)	2 (4%)
Fast pace	2 (2%)	0	0
Films	0	1 (2%)	0
Games	0	0	1 (2%)
Heterogonous classes	1 (1%)	1 (2%)	0
Homework	3 (4%)	0	6 (11%)
Interactive instruction	0	0	1 (2%)
Large groups	5 (6%)	2 (3%)	1 (2%)
Low frequency of lessons	1 (1%)	0	0
Monotony	3 (4%)	3 (5%)	2 (4%)
Not demanding	2 (2%)	1 (2%)	0
Not enough grammar	4 (5%)	2 (3%)	2 (4%)
Not enough listening	1 (1%)	3 (5%)	0
Not enough pronunciation	1 (1%)	1 (2%)	0
Not enough speaking	16 (21%)	13 (21%)	9 (17%)
Not enough vocabulary	2 (2%)	0	3 (6%)
Not enough ESP		1 (2%)	0
Organization of the instruction	1 (1%)	0	1 (2%)
Outcome	2 (2%)	0	1 (2%)
Personality of native speaker	3 (4%)	0	0
Personality of the teacher	2 (2%)	11 (17%)	1 (2%)
Presentations	2 (2%)	0	2 (4%)
Pronunciation of the teacher	1 (1%)	2 (3%)	1 (2%)
Rotation of teachers	1 (1%)	2 (3%)	1 (2%)
Rotation of textbooks	0	0	1 (2%)
Teacher demeaning students	0	0	1 (2%)
Slow pace	0	0	2 (4%)
Testing procedures	1 (1%)	1 (2%)	1 (2%)
Textbook	0	0	1 (2%)
Translations	0	0	1 (2%)
Unfriendly atmosphere	0	1 (2%)	0
Usage of Czech language	0	0	2 (4%)
IRF interaction	1 (1%)	0	0
Work environment	1 (1%)	0	0

In the student needs analysis questionnaire, part two focused on the ongoing course of Medical English and its content, in particular medical topics, language skills and components, and preferred manner of interaction. Table 28 shows the frequency of single responses.

Table 28: Frequency of responses 2015-2018 in student needs analysis questionnaire part 2 concerning the ongoing course

Sphere	Question	2015-2016 no of preferences (%)	2016-2017 no of preferences (%)	2017-2018 no of preferences (%)
Number of respondents		77	63	53
In what vocabulary areas would you like to improve?	Body systems	58 (75)	38 (60)	31(58)
	Diagnostics	75 (97)	56 (89)	44 (83)
	Treatment	72 (94)	57 (90)	41 (77)
	Ethics in medicine	48 (62)	23 (37)	17 (32)
	Doctor-patient communication	66 (86)	42 (67)	40 (75)
	Taking a history	64 (83)	41 (65)	39 (74)
	Lifestyle	38 (49)	15 (24)	15 (28)
	Physical examination	64 (83)	36 (57)	39 (74)
	Telephoning	31 (40)	20 (32)	15 (28)
	Presentations	52 (68)	32 (51)	30 (57)
	Research	48 (62)	28 (44)	23 (43)
	Others	6 (8) spelling	0	3 (6)
What language skills and components would you like to improve?	Grammar	49 (64)	26 (41)	22 (42)
	speaking	58 (75)	50 (79)	42 (79)
	writing	33 (43)	20 (32)	10 (19)
	listening	35 (45)	32 (51)	27 (51)
	reading	Not explicitly specified	Not explicitly specified	7 (13%)
	Professional terminology	64 (83)	50 (79)	43 (81)
	Others	1 (1) (spelling)	0	0
What kind of interaction do you prefer	Individual work	37 (42)	22 (35)	19 (36)
	Pair work	41 (53)	38 (60)	37 (70)
	Group work	29 (38)	29 (48)	22 (42)
	IRF interaction	12 (16)	10 (16)	8 (15)
	Simulating Doctor-patient dialogues	26 (34)	28 (44)	29 (55)
	Teacher- fronted teaching	26 (34)	20 (32)	16 (30)
	Quizzes	19 (25)	15 (24)	18 (34)
	Projects	10 (13)	2 (3)	2 (4)

As far as professional vocabulary is concerned, the most requested area was diagnostics, marked by 97% of respondents in 2015-2016 and 83% of respondents in 2017-2018. The same topic also saw a high response in 2016-2017 (89%), although it was second to treatment, the most preferred topic in 2016-2017 (90% of respondents). Treatment also obtained a favourable response in study years 2015-2016 and 2017-2018 (92% and 77%, respectively). Doctor-patient communication came next, selected by 86% of respondents

in 2015-2016, 67% of respondents in 2016-2017, and 75% of respondents in 2017-2018; taking history came next (83% of respondents in 2015-2016, 65% of respondents in 2016-2017, and 74% of respondents in 2017-2018). Respondents considered lexical areas of body systems, physical examination, and presentations important as well, but ranked them differently. Body systems were chosen by 75% of respondents in 2015-2016, by 60% of respondents in 2016-2017, and by 58% in 2017-2018. Physical examination was selected by 83% of respondents in 2015-2016, 57% of respondents in 2016-2017, and 74% of respondents in 2017-2018. Presentations were deemed important by 68% of respondents in 2015-2016, 51% of respondents in 2016-2017, and 57% in 2017-2018. The array of professional vocabulary areas closed with research, ethics in medicine, telephoning, and lifestyle as the least required topics. The results show student willingness to work on professional vocabulary as all medical topics were given high priority. Overall information can be found in Figure 56.

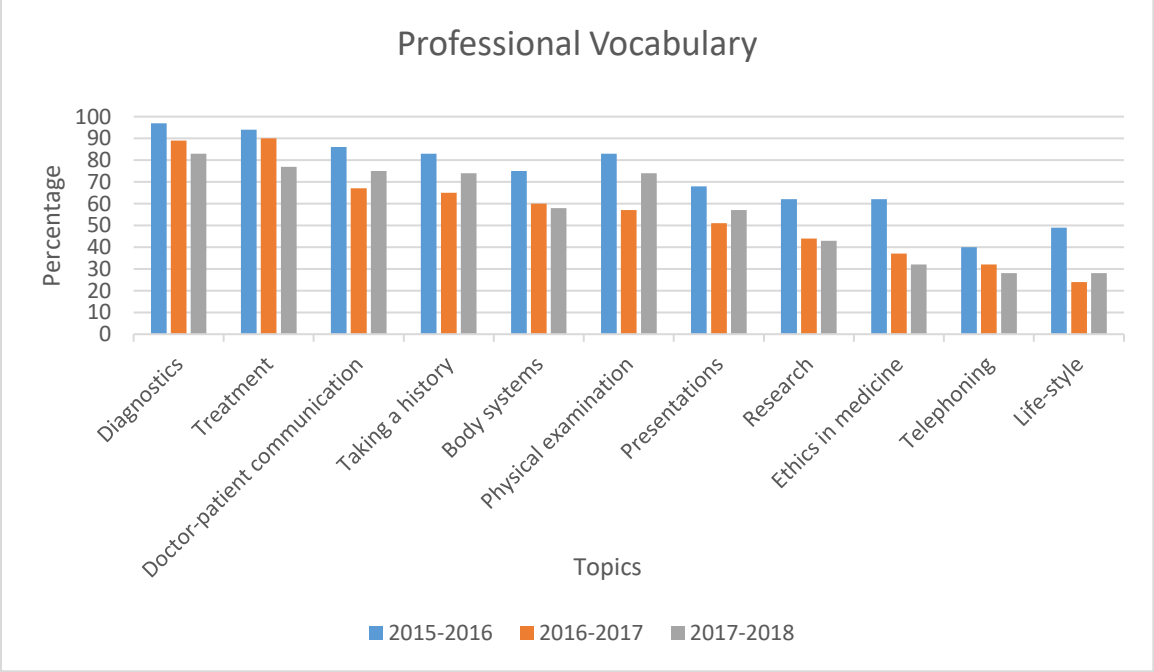


Figure 56: Comparison of answers 2015-2018 concerning the professional vocabulary

The question '*What language components and skills would you like to improve in?*' offered a choice of professional vocabulary and grammar, speaking, listening, writing, and reading. As this item was semi-closed, students had the opportunity to add any areas they preferred. In the pilot study, professional vocabulary was not explicitly listed, which most likely accounts for the low expressed interest in this particular area (only 4% of respondents).

However, the topic was listed in the study proper and ranked as the highest priority of students. In light of this information, we explicitly included reading in 2017-2018. However, the low result remained.

83% of respondents selected professional vocabulary as the highest priority in 2015-2016, 79% of respondents in 2016-2017, and 81% in 2017-2018. The second most required item was speaking, with a 75% response rate in 2015-2016. In 2016-2017, students equally prioritized speaking and professional vocabulary, with both receiving a 79% response rate. In 2017-2018, speaking was important for 79% of respondents. It is generally known that students involved in EMP highly regard professional vocabulary and the ability to express themselves in medical environment and communicate with patients. Grammar ranked third in 2015-2016 with 64% of responses, followed by listening (45% of respondents). In 2016-2017, 51% of respondents chose listening as the third most important, as did students in 2017-2018 (41% of responses). In 2016-2017 and 2017-2018, grammar ranked fourth among students, with 41% and 42% of respondents, respectively. Writing and reading were not seen as important areas of classroom focus. Detailed information is presented in Figure 57.

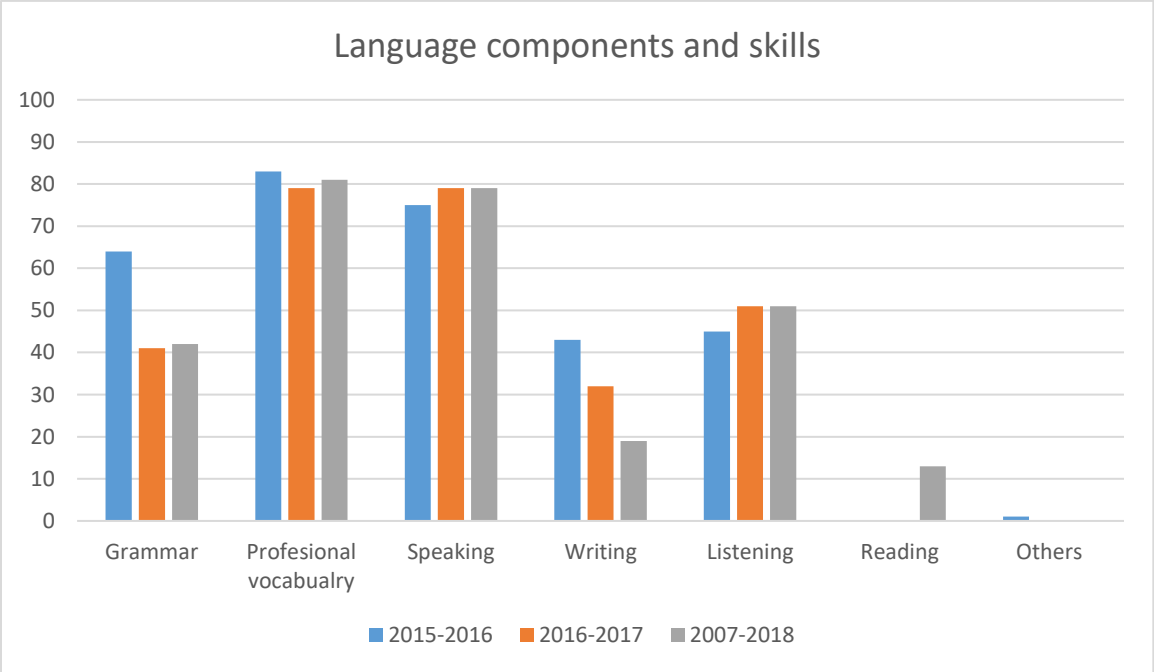


Figure 57: Comparison of answers 2015-2018 concerning the language components and skills

In regards to the preferred form of interaction, students most often selected pair work, with group work coming second, albeit a distant second. Pair work was chosen by 53% of

respondents in 2015-2016, by 60% of respondents in 2016-2017, and by 70% in 2017-2018. Group work was selected by 38% of respondents in 2015-2016, 48% in 2016-2017, and 42% in 2017-2018. In 2017-2018, doctor-patient dialogue simulation was marked by 55% of respondents; this activity naturally entails pair-work. Group work received 42% of responses. The ranking differs among individual work, IRF interaction, teacher-fronted instruction, and quizzes. The unpopularity of projects was quite unexpected, garnering only 13% of responses in 2015-2016, 3% of responses in 2016-2017, and 4% responses in 2017-2018. Figure 58 offers an overview concerning the preferred form of interaction.

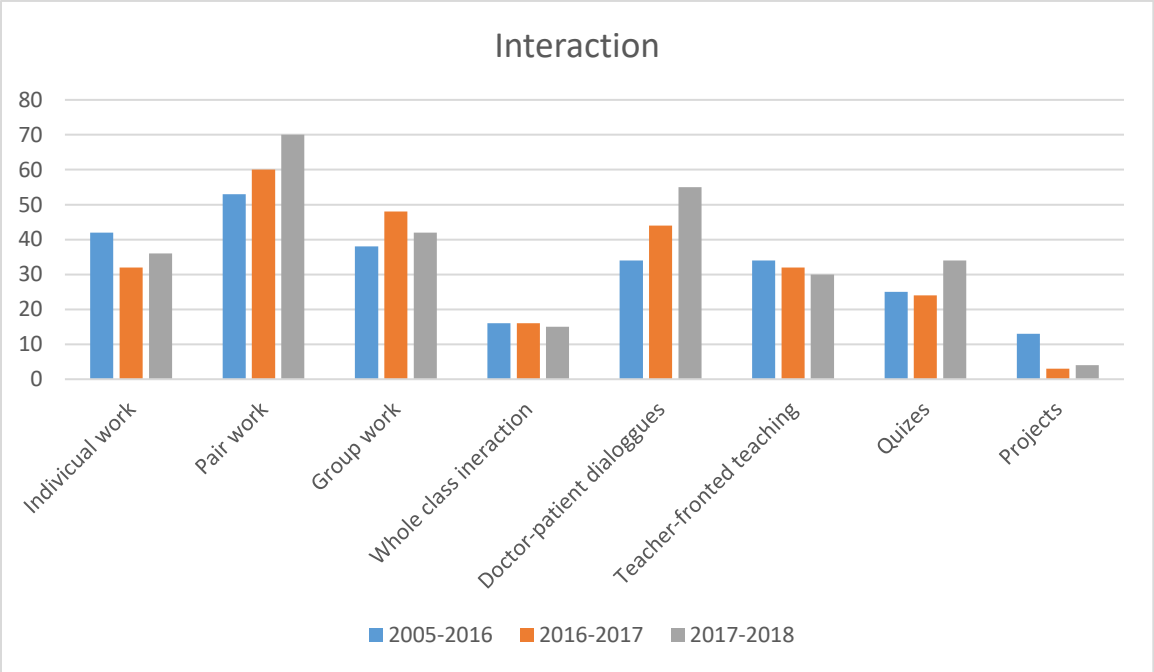


Figure 58: Comparison of answers 2015-2018 concerning the preferred interaction

In summary, the student needs analysis questionnaire demonstrated the necessities, lacks, and wants of students. We learnt that students most want to broaden their medical lexicon in the theoretical, pre-clinical, and clinical fields and to improve their communicative competence in order to express themselves in a medical environment, including situations requiring doctor-patient communication. Students perceived pair work and group work to be the most effective means of attaining such goals. Activating teaching methods are the perfect tool to combine all the requested areas. The set of activating teaching methods used in the instruction focused on the retrieval and use of professional vocabulary, all in spoken form while making use of preferred forms of interaction (pairs and groups).

5.2.2. Progress tests

The results of the progress tests between the control group and the experimental group were compared and analysed in order to determine whether the implementation of activating teaching methods could positively influence the acquisition of the professional vocabulary. Student results remained anonymous due to ethical considerations of the experiment.

For the elementary description of results, the mean and standard deviation were used. The mean showed the sum of all scores of all subjects in a group divided by the number of subjects. It provided information on the average performance of the group on the particular task. It demonstrated how the group performed as a whole. Standard deviation measured data dispersion around the mean (Hendl 2006: 97).

To test the statistical hypotheses, the results were processed and assessed by means of statistical methods of a two-sample t-test as well as nonparametric Mann-Whitney and Kolmogorov-Smirnov tests.

It was important to keep the results of the measurements separate for the B1 and B2 levels in order to exclude any bias potentially caused by the heterogeneity (in terms of language knowledge) between groups.

The number of students taking the progress test in study years 2015-2018 differed due to fluctuating attendance. Concerning the B1 level, there were 59 participants taking *OAJ I Progress test 01*: 30 participants in the experimental group compared to 29 controls. The *OAJ I Progress test 02* was taken by 43 participants: 24 participants in the experimental group and 19 participants in the control group. The third *OAJ II Progress test 01* was completed by 37 students: 23 in the experimental group and 14 controls. The last *OAJ II Progress test 01* was done by 39 participants: 23 in the experimental group compared to 16 controls. The reason the number of participants taking the third and fourth progress test decreased was the fact that those particular tests were taken in the summer term. As the research was conducted from September 2014 - January 2018, the study year 2017-2018 participated in the winter term only. Table 29 provides an overview of results. For full data, see Appendices 8 and 9.

Table 29: Overview of B1 progress test results

	No of B1 participants experimental group	No of B1 participants control group	**B1 experimental group Mean ± standard deviation**	**B1 control group Mean ± standard deviation**	**Probability level**
OAJ I Progress test 01	**30**	**29**	67.42 ±21.3	65.46 ± 20.81	0.722
OAJ I Progress test 02	**24**	**19**	47.491 ± 19.297	53.368 ± 18.604	0.32
OAJ II Progress test 01	**23**	**14**	54.913 ± 19.195	54.771 ± 24.613	0.985
OAJ II Progress test 02	**23**	**16**	44.05 ± 30.233	49.732 ±22.451	0.53

The mean test result figures for both the experimental and control groups were close in all progress tests. Standard deviation was also very close in the first two *OAJ I Progress tests*. The probability level shows how likely it is that results within the group are similar. The level of significance is α=0.05. If the value is above 0.05, it can be inferred that the results of the two samples are similar. If the value is below 0.05, it signifies a statistical difference in the two samples.

At the B1 level, the results showed that a significant statistical difference between the experimental and the control group was not found in progress tests. This shows that there is no statistically significant difference between the experimental and control groups (the zero hypothesis) when activating teaching methods are used for target vocabulary acquisition.

Regarding the B2 level, 37 participants took *OAJ I Progress test 01*: 17 participants in the experimental group and 20 controls. The *OAJ I Progress test 02* was completed by 34 participants: 12 participants in the experimental group and 22 participants in the control group. The third *OAJ II Progress test 01* was done by 29 students: 14 in the experimental group and 15 in the control group. The final *OAJ II Progress test 02* was completed by 21 participants: 7 in the experimental group compared to 14 controls. Table 30 provides an overview. Full data can be found in Appendices 10 and 11.

Table 30: Overview of B2 progress test results

	No of B2 participants experimental group	No of B2 participants control group	**B2 experimental group Mean ± standard deviation**	**B2 control group Mean ± standard deviation**	**Probability level**
OAJ I Progress test 01	**17**	**20**	89.7 ±11.547	65.81 ± 22.085	0.00542

OAJ I Progress test 02	**12**	**22**	77.333 ± 13.0878	50.436 ± 17.316	0.00005
OAJ II Progress test 01	**14**	**15**	63.121 ± 14.0222	51.613 ± 17.954	0.06629
OAJ II Progress test 02	**7**	**14**	52.057 ± 23.22	37.236 ±21.555	0.164

At the B2 level, the mean test result figures for the experimental and control groups differed. The mean results of the experimental group were significantly higher in the *OAJ I Progress test 01,* with the difference being nearly 24%. In the *OAJ I Progress test 02* the difference was 26.8%. The third *OAJ II Progress test 01* saw a difference of 11.5%. The forth *OAJ II Progress test 02* had 14.8%. According to the probability level, the results showed there was significant statistical difference between the experimental and control groups at the B2 level for progress tests 1-3, supporting the hypothesis that there would be a statistically significant difference in the improvement of target vocabulary acquisition for 3rd year medical students. The fourth progress test was the only one not supporting this hypothesis. The reasons can be only speculated at. One might be that the test was completed by few participants, thus if failed to represent adequately the whole population.

To sum up, the B1 results of the progress tests were very similar in both the experimental and control groups. This implies that the activating teaching methods implemented throughout both semesters did not facilitate acquisition of the medical vocabulary. However, progress test results in the B2 groups differed and results of the experimental groups were better in all progress tests compared to the controls. The reason, although speculative, might be that the retrievals of medical vocabulary at the B1 level were realized through various means (some students through activating teaching methods, others through self-study, some perhaps through both).

5.2.3. Credit tests

The effect of student exposure to activating teaching methods and the influence on vocabulary acquisition documented in the 80-item list was further measured by the credit tests. The credit tests were chosen as those tests meet requirements for standardized tests, despite certain discrepancies (absence of listening comprehension exercise in some

versions and the purpose of the test). Those tests might further support or deny findings of the progress tests.

At the B1 level, the *OAJ I credit test* was completed by 39 participants in the experimental group and 35 participants in the control group in study years 2015-2018. The summer *OAJ II credit test* was completed by 26 participants in the experimental group compared to 19 controls. Tables 31 and 32 provide data overviews at the B1 and B2 levels.

Table 31: Overview of B1 credit test results

	No of B1 participants experimental group	No of B1 participants control group	**B1 exp. group Mean ± standard deviation**	**B1 control group Mean ± standard deviation**	**Probability level**
OAJ I Credit test	**39**	**35**	57.267 ± 15.82	59.874 ± 17.822	0,625
OAJ II Credit test	**26**	**19**	70.769 ± 16.474	69.474 ± 21.0206	0,832

The mean test result figures showed that the experimental group obtained similar results to the control group, suggesting no significant difference between both groups in terms of credit test results. This outcome is further supported by the probability level numbers: 0.625 for the OAJ I Credit test, 0.832 for the OAJ II credit test. It is clear from these figures that no statistical difference was found in the credit test results of the experimental and control groups, which corresponds to the zero hypothesis (activating teaching methods in the form of implemented activities do not aid the acquisition of the target medical vocabulary).

For study years 2015-2018, the B2 level winter *OAJ I Credit test* was completed by 31 participants in the experimental group and 43 controls. Those figures for the summer *OAJ II Credit test* were as follows: 17 test takers in the experimental and 30 in the control group. Table 32 provides a data overview at B2 level.

Table 32: Overview of B2 credit test results

	No of B2 participants experimental group	No of B2 participants control group	**B2 exp. group Mean ± standard deviation**	**B2 control group Mean ± standard deviation**	**Probability level**
OAJ I Credit test	**31**	**43**	84.565 ± 11.635	75.654 ± 14.731	0.00664

OAJ II Credit test	**17**	**30**	75 ± 12.99	64.833 ± 14.473	0.02068

The mean test result figures revealed higher obtained scores for the experimental group compared to the control. The difference in the results between groups for the winter *OAJ I Credit test* was 9.7%, 10.2% for the summer *OAJ II Credit test*. The probability levels were 0.00664 for the *OAJ I Credit test* and 0.02068 for the *OAJ II credit test*. This signifies a significant statistical difference between the experimental and the control groups at the B2 level for the credit tests and supports the hypothesis that activating teaching methods in the form of implemented activities help facilitate the acquisition of the target medical vocabulary.

Credit test results for both the B1 and B2 levels mimic the results of the progress tests. This implies activating teaching methods helped to facilitate medical vocabulary acquisitions at the B2 level, not at the B1 level. The reasons are perhaps the same as those for the progress tests.

5.2.4. Short-form evaluation questionnaire

In order to ascertain student opinion on the activating teaching methods in the form of implemented activities, particularly in terms of how such methods influence student motivation, short-form evaluation questionnaires were distributed to all experimental and control groups. These questionnaires were deliberately distributed at the end of lessons in which these activities were implemented to ensure reliable feedback; otherwise, students might have problems recalling the activities if asked at a later date.

The results were calculated separately for the B1 and B2 level in order to compare the data obtained to the results from the progress and credit tests. The questionnaires were anonymous, meaning data gathered from the questionnaires came from all students present, not only those in the research sample.

Activities evaluated by the short-form evaluation questionnaires, in alphabetical order, were: *Ask the Right Question I, Ask the right question II, Crosswords I, Crosswords II, Describe and Guess I, Describe and Guess II, Describe and Swap, Explain, Find someone who, Noughts and Crosses, Ping-pong, Risk, Snakes and Ladders, What is the diagnosis,* and *Words and Definitions*.

B1 Short-form evaluation questionnaire results

The number of respondents evaluating the particular activity differed owing to fluctuating attendance and the fact that some activities were modified. For example, the *Describe and Guess II* activity in 2015-2016 was slightly modified into *Words and Definitions* in 2016-2017 and finally into *Snakes and Ladders* in 2017-2018. Another reason for differences in the number of respondents is the fact that 2017-2018 saw research carried out in the winter semester only. Table 33 offers an overview concerning the number of respondents in study years 2015-2018.

Table 33: Number of B1 respondents completing short-form evaluation questionnaires

Activity	**2015-2016 no of participants in experimental group**	**2015-2016 no of participants in control group**	**2016-2017 no of participants in experimental group**	**2016-2017 no of participants in control group**	**2017-2018 no of participants in experimental group**	2017-2018 no of participants in control group	Experimental group In total	Control group in total
Ask the Right Question I	8	6	-	-	-	-	**8**	**6**
Ask the Right Question II	8	15	2	12	-	-	**10**	**27**
Crosswords I	7	5	11	7	10	13	**28**	**25**
Crosswords II	8	15	2	11	-	-	**10**	**26**
Describe and Guess I	5	6	12	7	13	12	**30**	**25**
Describe and Guess II	6	6	-	-	-	-	**6**	**6**
Describe and Swap	8	6	-	-	-	-	**8**	**6**
Explain	-	-	-	-	-	-	-	-
Find Someone Who	-	6	2	14	-	-	**2**	**20**
Noughts and Crosses	-	-	12	9	12	16	**24**	**25**
Ping-pong	6	5	9	5	13	15	**28**	**25**
Risk	8	15	3	13	-	-	**11**	**28**
Snakes and Ladders	-	-	-	-	13	12	**13**	**12**
What is the Diagnosis	8	16	-	-	-	-	**8**	**16**
Words and Definitions	-	-	-	8	-	-	**0**	**8**

B1 experimental group

As far as the overall B1 evaluation of the activities in the experimental group is concerned, it must be emphasized that the majority of the activities were evaluated as excellent or very good; very few respondents ranked the activities as mostly insufficient or insufficient.

The B1 experimental group selected the activities *Risk* and *Crosswords* II as *the* most popular, with 100% of responses ranking the activities excellent or very good. The activity *Find someone who* was selected the least attractive, albeit with a small research sample (only 2 respondents), with 50% of respondents ranking it as mostly insufficient. The

evaluation overview is shown in Table 34 and provides the frequency of responses in absolute and percentage figures.

Table 34: Frequency of B1 experimental group responses concerning the overall evaluation of the activities

Overall evaluation of the activity	0 (insufficient)	25 (mostly insufficient)	50 (sufficient)	75 (very good)	100 (excellent)
Ask the Right Question	0	0	1 (13%)	4 (50%)	3 (38%)
Ask the Right Question II	0	0	2 (20%)	4 (40%)	4 (40%)
Crosswords	0	0	4 (14%)	12 (43%)	7 (29%)
Crosswords II	0	0	0	4 (40%)	6 (60%)
Describe and Guess I	0	1 (3%)	3 (8%)	13 (35%)	20 (54%)
Describe and Guess II	0	0	1 (17%)	2 (33%)	3 (50%)
Describe and Swap	0	0	2 (25%)	3 (38%)	3 (38%)
Explain	-	-	-	-	-
Find Someone Who	0	1 (50%)	0	0	1 (50%)
Noughts and Crosses	0	1 (4%)	5 (21%)	8 (33%)	9 (38%)
Ping-pong	0	3 (11%)	2 (7%)	4 (14%)	18 (64%)
Risk	0	0	0	1 (9%)	10 (91%)
Snakes and Ladders	0	1 (8%)	2 (15%)	3 (23%)	7 (54%)
What is the Diagnosis	0	0	1 (13%)	5 (63%)	2 (25%)
Words and Definitions	-	-	-	-	-

Regarding professional vocabulary, *Noughts and Crosses* and *Crosswords* were chosen as the best activities, with both activities receiving a 96% positive response rate; the least beneficial activity was *Risk,* with only 36%. In terms of speaking, the activity *Describe and Guess II* was chosen as the most beneficial (at 100%); *Noughts and Crosses* came last, selected by 25% of respondents.

Table 35: Frequency of B1 experimental group responses concerning main benefits of the activities

Main benefits	Revision of medical vocabulary	Speaking	Making the lesson interesting
Ask the Right Question I	3 (38%)	6 (75%)	3 (38%)
Ask the Right Question II	4 (40%)	5 (40%)	5 (50%)
Crosswords	27 (96%)	22 (76%)	11 (39%)
Crosswords II	5 (50%)	4 (40%)	6 (60%)
Describe and Guess I	22 (73%)	23 (77%)	18 (60%)
Describe and Guess II	4 (67%)	6 (100%)	3 (50%)
Describe and Swap	5 (63%)	3 (38%)	4 (50%)
Explain	-	-	-
Find Someone Who	-	-	-
Noughts and Crosses	23 (96%)	22 (92%)	14 (58%)
Ping-pong	24 (86%)	7 (25%)	18 (64%)
Risk	4 (36%)	5 (45%)	5 (45%)
Snakes and Ladders	8 (62%)	7 (54%)	9 (69%)
What is the Diagnosis	4 (50%)	4 (50%)	4 (50%)

Words and Definitions	-	-	-

As the aim of this thesis is to investigate the potential influence activating teaching methods have on student motivation, particularly motivation linked to the level of interest generated by the implemented activities, the short-form evaluation questionnaire sought to obtain data concerning whether or not the particular activity being implemented spurred student interest.

In the experimental group, more than 50 % of all respondents marked 11 of the 12 activities, indicating interest in the lesson was clearly stimulated by the implemented activities. *Snakes and Ladders* ranked the highest (69% of respondents), *Ask the Right Question I* the lowest (38%). This fact is further supported by the data obtained from the open questions concerning the pros and cons of the implemented activities. The pros frequently mentioned were the entertainment value, the playful character of vocabulary revision activities, elimination of student inhibition, pair-work, and being forced to speak. Disadvantages listed were unclear rules, absence of vocabulary knowledge, lack of time, and difficult vocabulary items needing to be explained. One student replied with a quite bizarre answer, feeling that the activities were only beneficial for students who were prepared for class.

B1 control group

The B1 controls likewise perceived the implemented activities very positively. They ranked the activity *Describe and Guess I* the most beneficial, with 96% of respondents listing this activity as excellent or very good. The least popular activity was *Crosswords II*, although it still attained a 58% positive response rate (very good or excellent), while 23% viewed the activity as mostly insufficient. The overall evaluation is presented in Table 36.

Table 36: Frequency of B1 control group responses concerning the overall evaluation of the activity

Overall evaluation of the activity	0 (insufficient)	25 (mostly insufficient)	50 (sufficient)	75 (very good)	100 (excellent)
Ask the Right Question	0	0	1(17%)	2 (33%)	3 (50%)
Ask the Right Question II	0	0	7 (26%)	12 (44%)	6 (22%)
Crosswords	0	0	6 (24%)	10 (40%)	8 (32%)
Crosswords II	0	6 (23%)	5 (19%)	9 (35%)	6 (23%)
Describe and Guess I	0	0	1 (4%)	11 (44%)	13 (52%)
Describe and Guess II	0	0	1 (17%)	3 (50%)	2 (33%)
Describe and Swap	0	0	1 (17%)	3 (50%)	2 (33%)
Explain	-	-	-	-	-
Find Someone Who	0	1 (5%)	4 (20%)	9 (45%)	6 (30%)
Noughts and Crosses	0	1 (4%)	1 (4%)	10 (40%)	13 (52%)

Ping-pong	0	1 (4%)	2 (8%)	4 (16%)	18 (72%)
Risk	1 (4%)	0	3 (11%)	11 (39%)	13 (46%)
Snakes and Ladders	0	1 (8%)	0	1 (8%)	10 (83%)
What is the Diagnosis	0	1 (6%)	4 (25%)	5 (31%)	6 (38%)
Words and Definitions	0	0	0	4 (50%)	3 (38%)

The B1 control group favoured *Words and Definitions* for professional vocabulary practice, with an 88% response rate. *Find Someone Who* (45%) was selected as the least popular. Regarding speaking, students chose *Describe and Guess II* (100%) as the most popular, while Ping-pong ended up at the other end of the scale (28%).

In the control group, 6 of the 13 activities were regarded by at least 50% of respondents as stimulating interest in the classes. The activity Ping-pong received the highest 80% of positive response rate, while the activity *Crosswords* obtained the lowest score, only 24% of respondents. In the open question, positive aspects listed by the control group were consistent with those mentioned by the experimental group. Additional negatives given were the absence of grammatical corrections, different language levels within pairs, and excessive time demands of certain activities.

Table 37: Frequency of B1 control group responses concerning main benefits of the activities

Main benefits	Revision of medical vocabulary	Speaking	Making the lesson interesting
Ask the Right Question I	3 (50%)	5 (83%)	2 (33%)
Crosswords	15 (60%)	14 (56%)	6 (24%)
Crosswords II	16 (62%)	17 (65%)	7 (30%)
Describe and Guess I	13 (52%)	17 (68%)	13 (52%)
Describe and Guess II	3 (50%)	5 (83%)	2 (33%)
Describe and Swap	4 (67%)	4 (67%)	3 (50%)
Explain	-	-	-
Find Someone Who	9 (45%)	10 (50%)	5 (25%)
Noughts and Crosses	18 (72%)	14 (56%)	12 (48%)
Ping-pong	17 (68%)	7 (28%)	20 (80%)
Risk	15 (54%)	14 (50%)	16 (57%)
Snakes and Ladders	7 (58%)	5 (42%)	7 (58%)
What is the Diagnosis	9 (56%)	10 (63%)	11 (69%)
Words and Definitions	7 (88%)	6 (75%)	2 (25%)

B1 experimental and control groups comparison

As regards the overall evaluation of the activities, both groups found all the implemented activities attractive, evaluating them as excellent or very good. The percentage varied from 50-100% in the experimental group, 58-96% in the control group. The comparison of responses in percentage between the experimental and control groups is given in Figure 59.

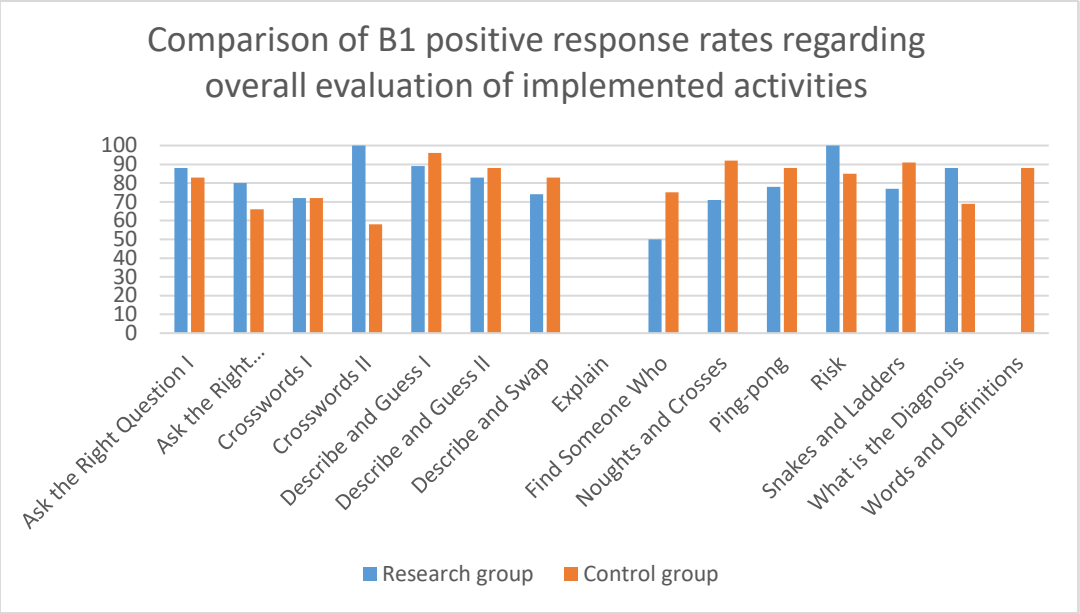


Figure 59: Comparison of B1 positive response rates in the B1 experimental and control group concerning the overall evaluation of the activities

Students evaluated the implemented activities very highly, mostly because these activities allowed the students to develop areas of language interest (willingness to improve in the professional vocabulary and in their language skill speaking). These areas were requested by students in the needs analysis questionnaires carried out at the beginning of the course.

As for professional vocabulary, more than 50 % of respondents in the B1 experimental group chose 10 out of 12 activities as beneficial; the B1 control group indicated 12 out of 13 activities. In regards to promoting speaking, the experimental group selected 7 out of 12 activities, the control group 11 out of 13.

When comparing group attitudes towards the relationship between the activating teaching methods and the level of student interest, both B1 groups thought the methods helped make the lesson interesting. The B1 experimental group demonstrated slightly higher frequencies of positive answers: more than 50 % of respondents marked 11 of the 12 activities as stimulating interest, the percentage varied from 38-65%. The control group also felt the implemented activities had the potential to make the lesson interesting; however, 50% of respondents chose 6 out of 13 activities, the percentage varied from 24-80%. Comparison of both groups is presented in Figure 60.

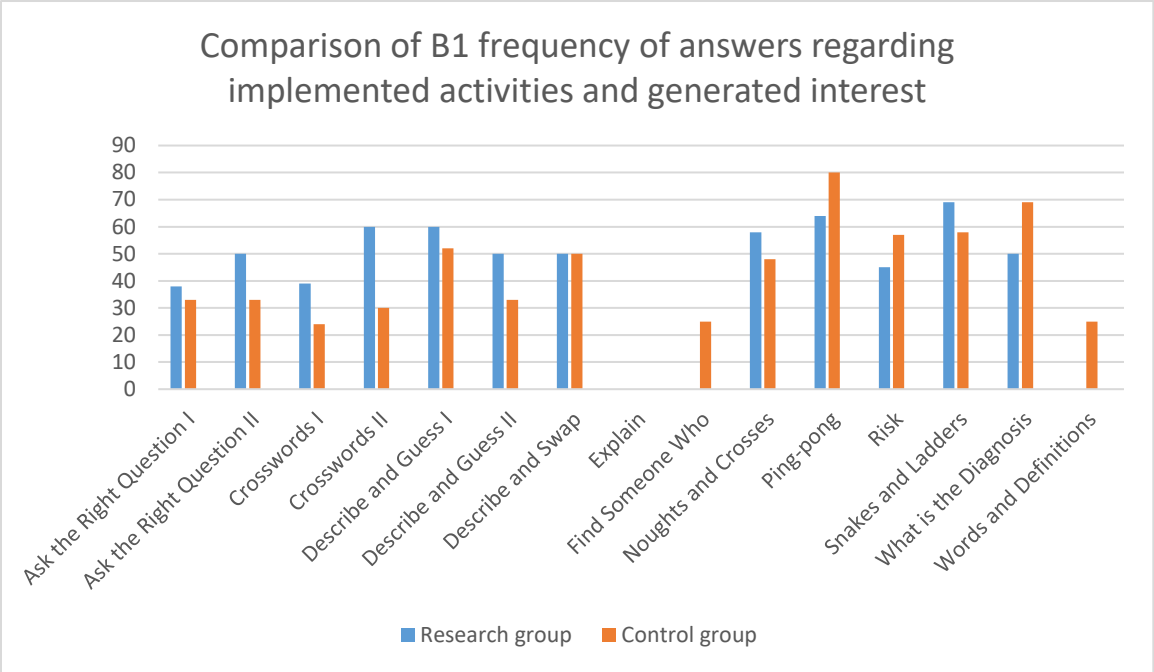


Figure 60: Comparison of B1 frequency of answers concerning motivation in the experimental and control groups

The influence on motivation related to the level of interest generated by the implemented activities was seen in both the B1 experimental and control group, specifically in the scaled question concerning interesting activities and in the open questions. A certain degree of inconsistency was observed in the activities *Describe and Guess* I, *Describe and Guess II*, and *Describe and Swap*. Those activities, in fact, represented more or less the same activity in terms of the amount of speaking and the involvement of professional vocabulary. Yet when ranked by students, the evaluation for speaking varied from 38-100% in the experimental group, a perplexing result when given the similarity of the activities. Another inconsistency observed in the questionnaire results involved student opinion on the aspect of classroom interest. Some activities were given a quite low score. Thus in the open question concerning positives and negatives of the particular activity, activities listed by students as entertaining, fun, and playful, also generated low scores in terms of interest. *Risk* can serve as a further example. In the B1 experimental group, 45% of respondents thought *Risk* was a good activity for speaking practice, 36% for vocabulary practice and 45% for generating interest, all scores indicating an evaluation below average. However, as far as the overall evaluation is concerned, *Risk* was evaluated as best activity of all, receiving a 100% positive response rate.

B2 short-form evaluation results

The B2 level likewise evaluated the implemented activities very positively. The number of respondents, however, is different due to the fluctuating attendance and modifications of some activities. For example, the activity *Describe and Swap* implemented in 2015-2016 was modified to *Words and Definitions* in 2016-2017. Another reason for discrepancies in the number of respondents is the fact that 2017-2018 saw research carried out in the winter semester only. An overview concerning the number of participants is shown in Table 38.

Table 38: Number of B2 respondents for short-form evaluation questionnaires

Activity	**2015-2016 no of participants in experimental group**	**2015-2016 no of participants in control group**	**2016-2017 no of participants in experimental group**	**2016-2017 no of participants in control group**	**2017-2018 no of participants in experimental group**	**2017-2018 no of participants in control group**	Experimental group In total	Control group in total
Ask the Right Question II	10	8	4	4	-	-	**14**	**12**
Ask the Right Question	5	2	-	-	-	-	**5**	**2**
Crosswords	8	4	8	12	-	-	**16**	**16**
Crosswords II	10	9	5	10	-	-	**15**	**19**
Describe and Guess I	16	16	6	6	-	-	**22**	**22**
Describe and Guess II	-	-	-	-	6	5	**6**	**5**
Describe and Swap	6	8	-	-	-	-	**6**	**8**
Explain	8	5	-	-	-	-	**8**	**5**
Find Someone Who	10	8	7	10	-	-	**17**	**18**
Noughts and Crosses	-	-	10	12	6	6	**16**	**18**
Ping-pong	5	4	5	8	6	6	**16**	**18**
Risk	10	9	4	8	-	-	**14**	**17**
Snakes and Ladders	-	-	-	-	6	4	**6**	**4**
What is the Diagnosis	10	9	-	-	-	-	**10**	**9**
Words and Definitions	-	-	10	14	-	-	**10**	**14**

B2 experimental group

Regarding the B2 experimental group overall evaluation of activities, activities were received very positively. The majority of activities (10 of 15) was given an evaluation of excellent or very good. The experimental group chose the activity *Explain* as the most popular, marked very good or excellent by 88% of respondents. The least favourite activity,

albeit with a small research sample (only 6 respondents), was *Snakes and Ladders*, with 34% ranking it excellent or very good, 50% mostly insufficient or insufficient.

Table 39: Frequency of B2 experimental group responses concerning the overall evaluation of the activity

Overall evaluation of the activity	0 (insufficient)	25 (mostly insufficient)	50 (sufficient)	75 (very good)	100 (excellent)
Ask the Right Question	0	0	1 (20%)	2 (40%)	2 (40%)
Ask the Right Question II	0	1 (7%)	4 (29%)	5 (36%)	2 (14%)
Crosswords	0	0	2 (13%)	4 (25%)	9 (56%)
Crosswords II	0	2 (13%)	2 (13%)	2 (13%)	6 (40%)
Describe and Guess I	0	2 (9%)	4 (18%)	13 (59%)	3 (14%)
Describe and Guess II	-	-	1 (17%)	4 (67%)	1 (17%)
Describe and Swap	0	0	5 (83%)	0	1 (17%)
Explain	0	0	1 (13%)	2 (25%)	5 (63%)
Find Someone Who	0	2 (12%	6 (35%)	4 (24%)	5 (29%)
Noughts and Crosses	0	1 (6%)	4 (25%)	5 (31%)	5 (31%)
Ping-pong	0	2 (13%)	2 (13%)	4 (25%)	7 (44%)
Risk	0	0	0	4 (14%)	10 (71%)
Snakes and Ladders	1 (17%)	2 (33%)	1 (17%)	1 (17%)	1 (17%)
What is the Diagnosis	1 (10%)	0	4 (40%)	3 (30%)	2 (20%)
Words and Definitions	0	0	1 (10%)	3 (30%)	5 (50%)

Concerning the focus on professional vocabulary, 9 out of 15 activities were marked as beneficial. The best activity within this particular focus was *Words and Definitions*; it received a 100% score. The least beneficial was the activity *What is the Diagnosis*, with a 0% response rate.

Regarding the focus on speaking, the experimental B2 group positively evaluated 8 out of 15 activities, with at least 50% or more of respondents indicating that the activities were beneficial. The most popular activity, *Words and Definitions,* obtained a response rate of 90%. The least popular activity was *What is the Diagnosis,* marked by 0% of respondents. Table 41 illustrates the results.

As regards the potential effect activating teaching methods have on student motivation (related to the level of interest generated by the implemented activities), the B2 experimental group considered beneficial 4 out of 15 activities: *Ping-pong* (69% response rate), *Explain* (63%), *Noughts and Crosses* (56%), and *Snakes and Ladders* (50%). The least beneficial activity was *Ask the Right Question,* yielding a 0% response rate.

Table 40: Frequency of B2 experimental group responses concerning the main benefits of the activities

Main benefits	Revision of medical vocabulary	Speaking	Making the lesson interesting
Ask the Right Question I	1 (20%)	3 (60%)	0
Ask the Right Question II	5 (36%)	5 (36%)	3 (21%)
Crosswords	12 (75%)	12 (75%)	2 (13%)
Crosswords II	5 (33%)	6 (40%)	4 (27%)
Describe and Guess I	21 (95%)	16 (73%)	5 (23%)
Describe and Guess II	3 (50%)	5 (83%)	2 (33%)
Describe and Swap	5 (83%)	2 (33%)	1 (17%)
Explain	6 (75%)	4 (50%)	5 (63%)
Find Someone Who	8 (47%)	8 (47%)	4 (24%)
Noughts and Crosses	12 (75%)	10 (63%)	9 (56%)
Ping-pong	11 (69%)	4 (25%)	11 (69%)
Risk	5 (36%)	4 (29%)	6 (43%)
Snakes and Ladders	5 (83%)	4 (66%)	3 (50%)
What is the Diagnosis	0	0	2 (20%)
Words and Definitions	10 (100%)	9 (90%)	3 (30%)

B2 control group

The B2 control group evaluated 12 activities out of 15 as excellent or very good, ranking the activity *Ask the Right Question* the highest. It received a 100% rating, although there were only 2 respondents in total. *Risk* was second with 82%. The least favourite activity was *Snakes and Ladders,* with 25% of responses.

Table 41: Frequency of B2 control group responses concerning the overall evaluation of the activity

Overall evaluation of the activity	0 (insufficient)	25 (mostly insufficient)	50 (sufficient)	75 (very good)	100 (excellent)
Ask the Right Question	0	0	0	2 (100%)	0
Ask the Right Question II	0	1 (8%)	2 (17%)	4 (33%)	3 (25%)
Crosswords	0	0	4 (25%)	6 (38%)	4 (25%)
Crosswords II	0	0	1 (5%)	10 (53%)	5 (26%)
Describe and Guess I	0	1 (5%)	5 (23%)	13 (59%)	2 (9%)
Describe and Guess II	0	1 (20%)	2 (40%)	1 (20%)	1 (20%)
Describe and Swap	0	0	1 (13%)	3 (38%)	3 (38%)
Explain	0	0	0	0	4 (80%)
Find Someone Who	0	0	2 (11%)	9 (50%)	5 (28%)
Noughts and Crosses	0	4 (22%)	4 (22%)	5 (28%)	2 (11%)
Ping-pong	0	2 (11%)	3 (16%)	3 (16%)	8 (44%)
Risk	0	1 (6%)	1 (6%)	1 (6%)	13 (76%)
Snakes and Ladders	0	2 (50%)	1 (25%)	1 (25%)	0
What is the Diagnosis	0	1 (11%)	2 (22%)	3 (33%)	3 (33%)
Words and Definitions	0	0	2 (14%)	8 (57%)	2 (14%)

As for professional vocabulary, 10 activities were assessed by at least 50% of respondents as beneficial, the best activity being *Explain,* with 100%. The least useful activity appears to have been *Ask the Right Question I,* with a response rate of 11%, although there were only 2 respondents.

In terms of activities promoting the language skill speaking, 8 out of 15 activities were evaluated positively by the B2 controls; *Words and Definitions* had a 100% response rate; *What is the Diagnosis* was considered the least beneficial, with a response rate of 22%. The frequency of answers is provided in Table 42.

Table 42: Frequency of B2 control group responses concerning main benefits of the activities

Main benefits	Revision of medical vocabulary	Speaking	Making the lesson interesting
Ask the Right Question I	0	1 (50%)	0
Ask the Right Question II	4 (33%)	4 (33%)	2 (17%)
Crosswords	13 (81%)	15 (94%)	6 (38%)
Crosswords II	7 (37%)	11 (58%)	5 (26%)
Describe and Guess I	20 (91%)	18 (82%)	7 (32%)
Describe and Guess II	4 (80%)	4 (80%)	3 (60%)
Describe and Swap	7 (88%)	3 (38%)	5 (63%)
Explain	5 (100%)	2 (40%)	5 (100%)
Noughts and Crosses	13 (72%)	8 (44%)	6 (33%)
Ping-pong	9 (50%)	6 (33%)	12 (67%)
Risk	3 (18%)	5 (29%)	11 (65%)
Snakes and Ladders	2 (50%)	2 (50%)	2 (50%)
Words and Definitions	12 (86%)	14 (100%)	4 (29%)
What is the Diagnosis	1 (11%)	2 (22%)	3 (33%)
Find Someone Who	5 (27%)	11 (61%)	3 (17%)

As regards the potential effect activating teaching methods have on student motivation, the B2 control group found 6 activities beneficial: *Explain* (100% response rate), *Ping-pong* (67%). *Risk* (65%), *Describe and Swap* (63%), *Describe and Guess* (60%), *and Snakes and Ladders* (50%). The least popular activity was *Ask the Right Question I,* garnering 0% responses. It might seem that the potential for improving speaking and professional vocabulary were the main factors behind the positive evaluation of the implemented activities, since an increase in interest levels was not very frequently mentioned in connection with those activities. However, when given the chance for unprompted responses in the open questions, both groups often mentioned the following motivationally associated aspects: entertainment, pair work, relaxed atmosphere, variability of the exercises, and motivation to learn vocabulary from previous lessons. Disadvantages mentioned in the open questions were: unfamiliarity with the medical vocabulary, usage of L1 within pairs, not enough time given for the particular activity, unclear rules, and size of groups.

B2 experimental and control groups comparison

Regarding the B2 overall evaluation of the activities, the vast majority of students in both groups found the implemented activities stimulating and ranked them as excellent or very good, with the percentage varying from 17-100% in the experimental group, 41-100% in the control group. The comparison of responses in percentage between the B2 experimental and control group is provided in Figure 61.

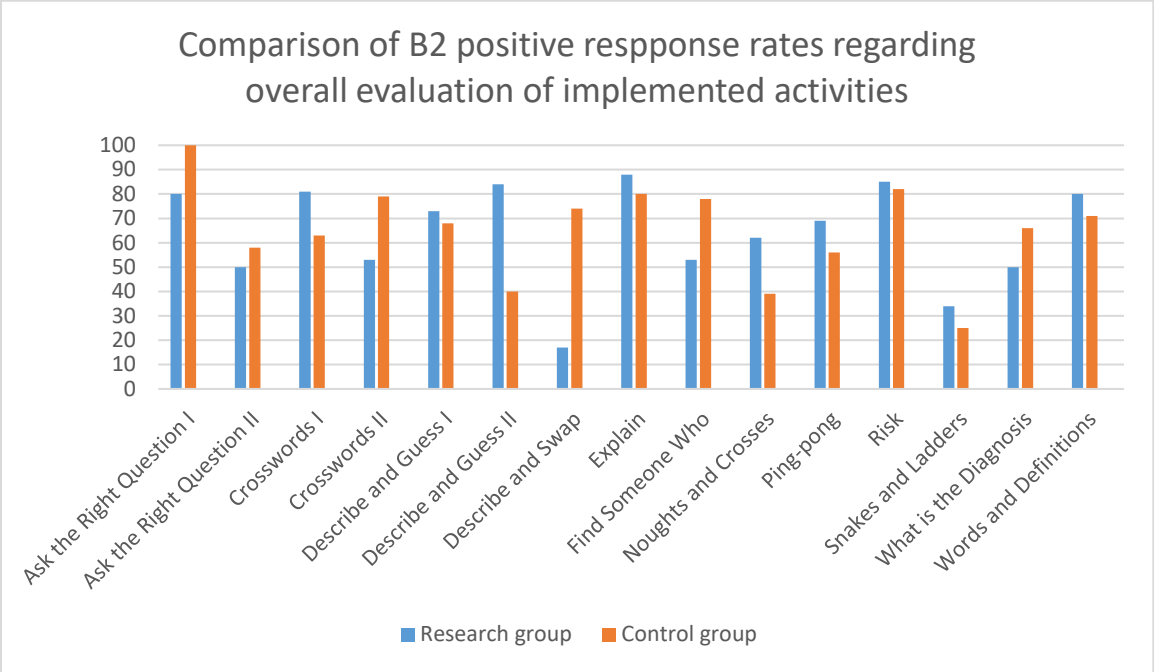


Figure 61: Comparison of B2 positive response rates in the experimental and control group concerning the overall evaluation of the activities

In regards to professional vocabulary, more than 50 % of B2 experimental group respondents chose 9 out of 15 activities as beneficial; the B2 control group marked 10 out of 15 activities. As far as speaking is concerned, both groups selected 8 out of 15 activities as beneficial for promoting speaking.

Concerning the relationship between the activating teaching methods and the level of student interest, the results are not persuasive when compared to professional vocabulary acquisition and promotion of speaking. In the B2 experimental group, more than 50 % of respondents marked 4 of the 15 activities as stimulating interest, with the percentage varying from 0-69%. In the control group, more that 50% of respondents chose 6 out of 15 activities; the percentage varied from 0-100%. The B2 control group demonstrated slightly

higher frequencies of positive answers. Comparison of both groups is presented in Figure 62.

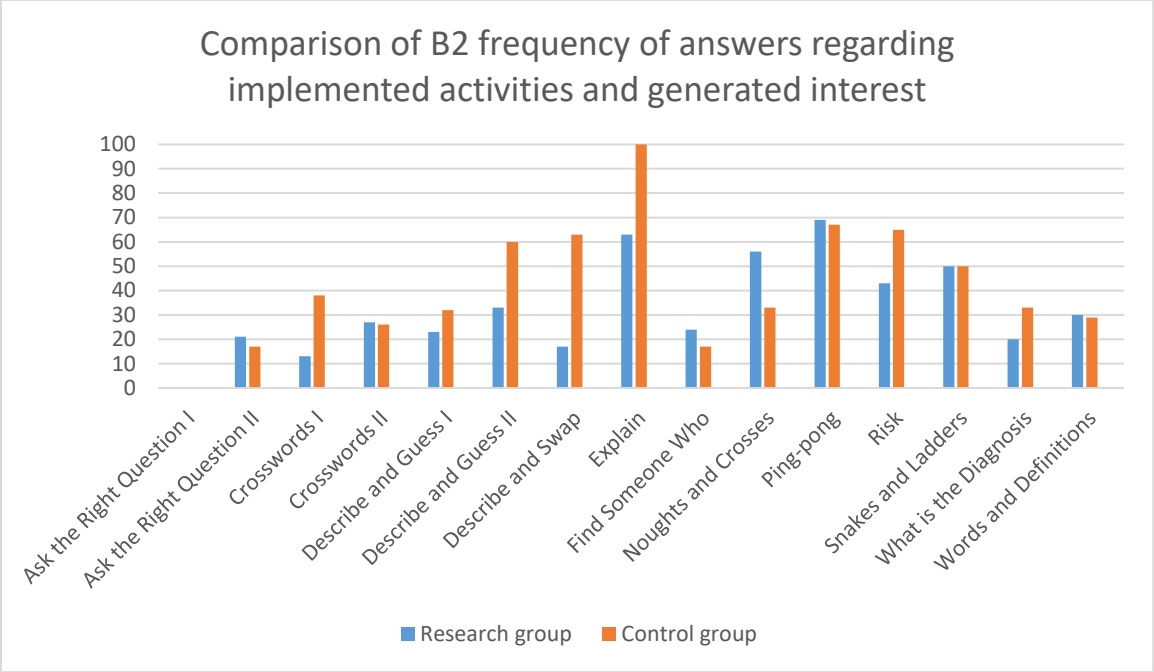


Figure 62: Comparison of responses concerning motivation in the experimental and control groups

The influence on motivation stemming from interesting activities in both the B2 experimental and B2 control group can be seen in the scaled and open questions (in the advantages and disadvantages listed). A certain discrepancy is apparent in the evaluation of the activities *Describe and Guess* and *Describe and Swap.* As at the B1 level, those activities feature minor modifications in only one activity, meaning the percentage of speaking or professional vocabulary should be comparable. However, the evaluation of the speaking component varied markedly (33-73% in the experimental group, 38-82% in the control group). Another example of a certain inconsistency can be seen in the evaluation of certain activities. Evaluation of the activity *Ask the Right Question I* can serve as the example. In the B2 experimental group, this activity received an 80% positive response rate for the overall evaluation of the activity, the score indicating an evaluation far above average. However, the same activity was given a 0% response rate for both the professional vocabulary acquisition and the promotion of speaking.

5.2.5. Evaluation questionnaire

Due to a certain degree of discrepancy in the answers in the short-form evaluation questionnaires (described in the previous chapter), we included the final evaluation questionnaire in order to assess student opinion on activating teaching methods. The main purpose here was to obtain a deeper insight into the activating teaching methods, specifically how such methods improve professional vocabulary acquisition (acquisition of medical vocabulary, influence on speaking) and influence student motivation (making the lesson interesting, increased motivation for further work, friendly atmosphere). The students had a chance to assess these areas by means of parametric questions aimed at gauging student opinion on the teaching methods and the selected classroom activities. In the open questions, student could give feedback as to the beneficial and unbeneficial activities and offer any suggestions for improvement.

The B1 and B2 levels were analysed separately in order to ensure the possibility of comparing data with the previous research techniques, namely the progress tests, credit tests, and short-form evaluation questionnaires. A few modifications were necessary in the evaluation questionnaire carried out in the final research study year (2017-2018). Firstly, the questionnaire was extended by 6 parametric questions for the area of activating teaching methods: the main benefits of those activities, their potential to make the lesson interesting, their influence on the acquisition of medical vocabulary, the impact on speaking practice, on the motivation for further work, and the potential influence such activities have on creating friendly atmosphere. Secondly, the evaluation scale was changed from that of numerical percentage (*0% - 25% - 50% - 75% - 100%)* to a verbal formulation *(no – probably not – probably yes – yes – I don't know).* This greatly helped minimize confusion. The last change involved rephrasing the item *'the teacher focused on speaking/medical terminology'* to *'the teacher focused adequately on speaking/medical terminology'*.

At the B1 level, we worked with 27 respondents in the experimental group compared to 50 controls. At the B2 level, there were 35 respondents in the experimental and 32 in the control group. The number of respondents is displayed in Table 43.

Table 43: Number of respondents of the evaluation questionnaires in study years 2015-2018

	2015-2016 experimental group	2015-2016 control group	2016-2017 experimental group	2016-2017 control group	2017-2018 experimental group	2017-2018 control group	**experimental in total**	**control in total**
B1	8	17	7	16	12	17	**27**	**50**
B2	10	9	9	11	16	12	**35**	**32**

B1 evaluation questionnaire results

B1 experimental group

At the B1 level, the overall satisfaction with the choice of teaching methods and activities was obvious in the experimental group; the positive response rate reached 96%: 70% of respondents expressing complete satisfaction, 26% with minor objections only. Regarding the teacher's focus on speaking, most students (79%) were content: 27% completely so, 52% with minor objections. Only 8% of respondents felt the focus on speaking was insufficient. Satisfaction with the focus on medical terminology was expressed by 85% of respondents: 78% completely, 7% with minor objections. Table 44 provides results of the B1 experimental group.

Table 44: B1 evaluation questionnaire experimental group results

Overall evaluation of the activity	**0 (insufficient)**	**25 (mostly insufficient)**	**50 (sufficient)**	**75 (very good)**	**100 (excellent)**
The teacher's choice of methods and activities	0	0	0	7 (26%)	19 (70%)
The teacher's focus on speaking	1 (4%)	1 (4%)	3 (11%)	14 (52%)	8 (27%)
The teacher's focus on medical terminology	0	0	1 (4%)	2 (7%)	21 (78%)

The extended part of the questionnaire (mentioned above) regarding activating teaching methods had 12 respondents. The table below provides an indication of the positive way in which students responded to the activating teaching methods. The vast majority (84%) of B1 experimental group respondents found the implemented activities beneficial. As for the potential to make the lesson interesting, 92% of respondents found the activities beneficial to that end; 8% disagreed. In terms of medical terminology acquisition, 91% of

respondents found the implemented activities helpful; 8% had a converse opinion. The activating methods designed to practice speaking were viewed as favourable by 92% of respondents, as opposed to the 8% who found them unfavourable. The potential of the activities to increase motivation for further work saw a 66% positive evaluation rate, 33% negative. The impact these methods had on fostering a friendly classroom atmosphere was indicated by 83% of respondents, while 8% disagreed. For details, see Table 45.

Table 45: B1 experimental group frequency of answers concerning activating teaching methods

Question	**NO**	**PROBABLY NOT**	**PROBABLY YES**	**YES**	**I DON'T KNOW**
Activating teaching methods were beneficial	0	2 (17%)	5 (42%)	5 (42%)	0
Activating teaching methods made the lesson interesting	1 (8%)	0	3 (25%)	8 (67%)	0
Activating teaching methods helped to acquire medical terminology	0	1 (8%)	4 (33%)	7 (58%)	0
Activating teaching methods practiced speaking	0	1 (8%)	5 (42%)	6 (50%)	0
Increased motivation for further work	1 (8%)	3 (25%)	4 (33%)	4 (33%)	0
Activating teaching methods built friendly atmosphere	0	1 (8%)	1 (8%)	9 (75%)	0

Although a statistical analysis of open questions is difficult (Gavora 2010: 126), they nonetheless provide interesting data. In the open questions, students had the chance to list the beneficial content of the lessons; 78% of respondents indicated implemented activities. Some listed particular activities such as *Risk* (30%), *Ask the Right Question* (7%), Describe, *and Guess* (7%). Other examples of feedback associated with the activating teaching methods were the following: the popularity of activities in which students were encouraged to give definitions (15%), the favourable attitude towards discussions (4%), the eagerness with which lesson revision was received (4%), efficacy of activities involving pair work (7%), and entertainment value of the classes (4%). Aspects associated with low student satisfaction were: lack of homework assignments, insufficient grammar practice, the absence of EGP, inadequate speaking content, lack of sufficient listening comprehension exercises, absence of a comprehensive English-Czech vocabulary list, and low number of tests, each obtaining a 4% response rate. At first glance, it might seem that the negative feedback mentioned was not connected with the activating teaching methods. However, a closer examination of the data revealed the opposite. When students

mentioned insufficient grammar practice or lack of listening comprehension, it was, in fact, a critique of the time demands teaching activating methods place on the lesson. Had the time spent on activating teaching methods not been so extensive, it would have made lessons less constrained, thus providing the potential space for the content which students found lacking.

B1 control group

In the B1 control group, 94% of respondents evaluated the choice of teaching methods and activities very positively; 52% of respondents were completely satisfied, 42% with minor objections only. As for the focus on speaking, 74% of respondents felt the instruction offered adequate practice in speaking; 24% were completely satisfied, 60% with minor objections only. The focus on professional vocabulary was positively evaluated by 82% of respondents, 64% completely, 18% with minor objections only. In contrast, 6% ranked the focus on professional vocabulary as mostly insufficient.

Table 46: B1 evaluation questionnaire control group results

Overall evaluation of the activity	**0 (insufficient)**	**25 (mostly insufficient)**	**50 (sufficient)**	**75 (very good)**	**100 (excellent)**
The teacher's choice of methods and activities	0	0	3 (6%)	21 (42%)	26 (52%)
The teacher's focus on speaking	0	0	7 (14%)	30 (60%)	12 (24%)
The teacher's focus on medical terminology	0	3 (6%)	3 (6%)	9 (18%)	32 (64%)

17 respondents completed the extended area in the questionnaire concerning the activating teaching methods, yielding the following results: activating teaching methods were found beneficial by 88% of respondents, 12% viewed them as insufficient; 88% of respondents felt the activating teaching methods made the lesson interesting, 12% expressed the opposite opinion; 83% of respondents thought the activating teaching methods helped with medical vocabulary acquisition, 18% had a contrary view; 88% were of the view that activating teaching methods promoted speaking, 6% considered them unbeneficial in this regard; 59% of respondents thought activating teaching methods increased motivation for further work, 24% found an increase in motivation rather unlikely,

18% had no opinion on the matter; in terms of a positive classroom atmosphere, 94% felt activating teaching methods facilitated such an atmosphere, 6% did not know how to respond to that question.

Table 47: Frequency of B1 control group answers concerning activating teaching methods

Question	NO	PROBABLY NO	PROBABLY YES	YES	I DON'T KNOW
Activating teaching methods were beneficial	0	2 (12%)	8 (47%)	7 (41%)	0
Activating teaching methods made the lesson interesting	2 (12%)	0	4 (24%)	11 (64%)	0
Activating teaching methods helped to acquire medical terminology	1 (6%)	2 (12%)	6 (35%)	8 (47%)	0
Activating teaching methods practiced speaking	0	1 (6%)	6 (35%)	9 (53%)	0
Increased motivation for further work	0	4 (24%)	6 (35%)	4 (24%)	3 (18%)
Activating teaching methods built friendly atmosphere	0	0	5 (29%)	11 (65%)	1 (6%)

In the open questions, the following were considered beneficial: activating teaching methods in the form of implemented activities (60%), with special mention of the activities *Risk* (6%), *Explain*, *What is the diagnosis*, *Ask the right question*, *Guessing game*, and *Snakes and Ladders*, (2% each). The efficacy of pair work and group work activities, the popularity of activities in which students were encouraged to give definitions, effective vocabulary practice, the popularity of discussions, entertainment value, presentations, and listening (6% each) were other aspects of activating teaching methods positively received by students. Students gave negative feedback on the lack of sufficient grammar practice, the absence of a comprehensive English-Czech vocabulary list, insufficient listening comprehension, not enough teacher-student interaction, and lack of homework assignments. As with the B1 experimental group, the control group negative feedback criticised the time demands activating teaching methods place on the lesson.

B1 experimental and control group comparison

To summarise, both B1 groups viewed activating teaching methods very positively, the positive response rate for the overall satisfaction given by the experimental group was 84%, 88% in the control group. The satisfaction might be because these activities allowed the students to develop professional vocabulary and the language skill speaking, precisely

those areas of language interest required in the student needs analysis questionnaires. Concerning medical terminology, both groups found the activities beneficial, the experimental group gave a 91% of positive response rate, the control group 82%. In terms of promoting speaking, the results were very similar, 92% in the experimental, 88% in the control group. Concerning motivation, there were 3 topics of enquiry: to what extent did activating teaching methods employed in class make the lesson interesting, stimulate motivation for further work, and create a friendly atmosphere. The results between groups showed similar values. The potential of activating teaching methods to make the lesson interesting was indicated by 92% of respondents in the experimental group, 89% in the control group. The potential to stimulate motivation for further work was mentioned by 66% of students in the experimental group, 59% in the control. 83% of the experimental and 94% of the control students found the activating teaching methods conducive to a friendly atmosphere.

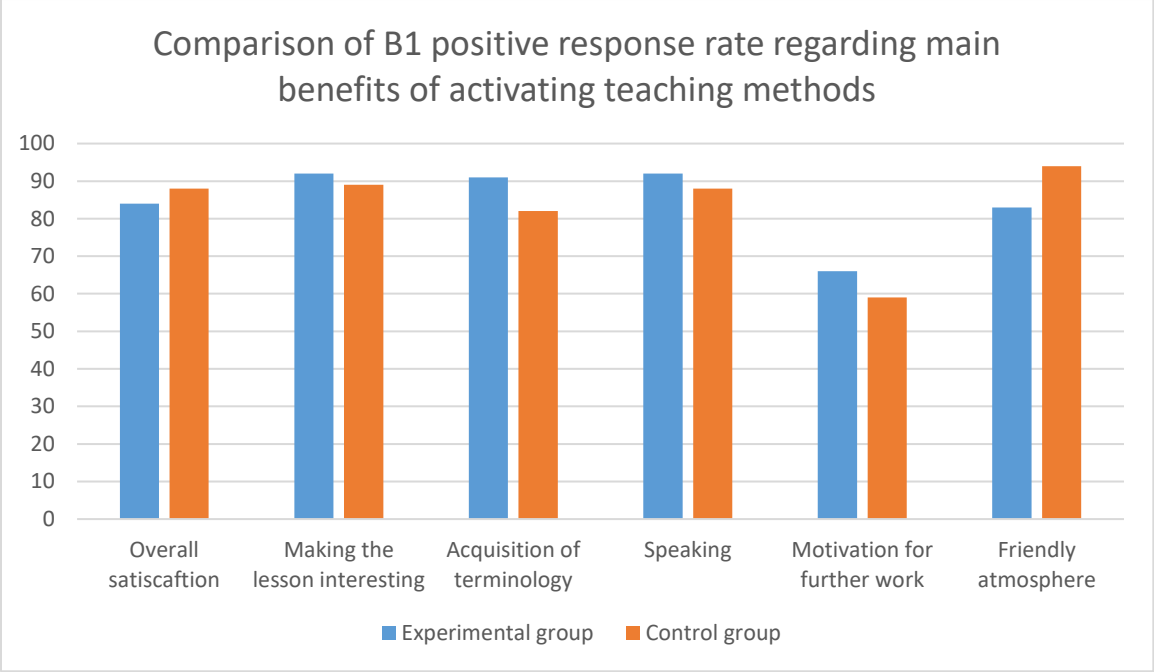


Figure 63: Comparison of B1 responses regarding main benefits of activating teaching methods

B2 evaluation questionnaire results

B2 experimental group

The B2 experimental group demonstrated an overall satisfaction with the choice of teaching methods and activities, with a 97% positive response rate; 77% were content completely, 20% with minor objections, 3% of respondents thought the choice of methods

and activities was insufficient. The teacher's focus on speaking was positively viewed by 89% of respondents, with 46% of student indicating complete satisfaction, 43% satisfaction with minor objections, and 9% marking it as rather insufficient. The teacher's focus on medical terminology was judged positively by 91% of respondents; 77% ranked it excellent, 14% very good, 3% thought it mostly insufficient. Table 48 shows the frequency of answers in both absolute and percentage figures.

Table 48: B2 experimental group overall evaluation of activities

Overall evaluation of the activity	**0 (insufficient)**	**25 (mostly insufficient)**	**50 (sufficient)**	**75 (very good)**	**100 (excellent)**
The teacher's choice of methods and activities	1 (3%)	0	1 (3%)	7 (20%)	27 (77%)
The teacher's focus on speaking	0	3 (9%)	1 (3%)	15 (43%)	16 (46%)
The teacher's focus on medical terminology	0	1 (3%)	1 (3%)	5 (14%)	27 (77%)

The extended area concerning the activating teaching methods had 16 respondents in the experimental group. The results were as follows: 94% found the activities beneficial, only 6% of respondents thought the opposite; 87% of respondents appreciated those activities for spurring interest, opposed to 13% who did not think so; the potential to help with medical vocabulary acquisition was positively evaluated by 88% of students, only 6% of respondents showed a reverse opinion; the ability of activating teaching methods to promote speaking was positively evaluated by 94% of respondents, 6% thought it rather insufficient; motivation for further work was selected by 51%, whereas 38% of respondents felt there was no such influence; all students (at 100%) appreciated the potential activating teaching methods had for creating a friendly classroom atmosphere.

Table 49: Frequency of B2 experimental group answers concerning activating teaching methods

Question	**NO**	**PROBABLY NOT**	**PROBABLY YES**	**YES**	**I DON'T KNOW**
Activating teaching methods were beneficial	1 (6%)	0	4 (25%)	11 (69%)	0
Activating teaching methods made the lesson interesting	0	2 (13%)	1 (6%)	13 (81%)	0
Activating teaching methods helped to acquire medical terminology	1 (6%)	0	8 (50%)	6 (38%)	1 (6%)

Activating teaching methods practiced speaking	0	1 (6%)	5 (31%)	10 (63%)	0
Increased motivation for further work	0	6 (38%)	6 (38%)	2 (13%)	2 (13%)
Activating teaching methods built friendly atmosphere	0	0	8 (50%)	8 (50%)	0

In the open questions, students commented on aspects of the lessons which they found beneficial. Topping the list was activating teaching methods, with a 51% positive response rate. Specific examples of implemented activities were also mentioned (*Risk, Find Someone Who, Crosswords, What is the Diagnosis* and *Explain,* each obtaining a 3% response rate). Other examples of positive feedback associated with activating teaching methods were as follows: effective speaking practice (mentioned by 6% of students); popularity of role-plays (6%); entertainment value of the implemented activities (6%), favourable attitude to pair work and group work (3% each); usefulness of definition activities (3%), lesson warm-up (3%). Aspects which students perceived as negative were: teacher-student interaction (9%) and the ineffectiveness of a certain required classroom activities, such as PowerPoint presentations, in terms of time and content demands (3%). Students suggested the course could be improved in regards to the grammar component; 9% of respondents would have preferred more classroom focus on grammar; in terms of speaking practice, more intense focus on speaking would have been appreciated by 9%; the same number (9%) indicated a desire for more listening comprehension exercises. Other suggestions concerning course improvement included required correction of pronunciation, invitation of qualified medical doctors to the lessons, and more activating teaching methods within the instruction.

B2 control group

The B2 control group likewise perceived the choice of methods and activities very positively. The overall satisfaction rate garnered a score of 91%, 53% of respondents were satisfied completely, 38% with minor objections. The teacher's focus on speaking was positively evaluated by 75% of respondents, as opposed to the 19% who regarded it as mostly insufficient. The focus on medical terminology was positively viewed by 93% of respondents.

Table 50: B2 control group overall evaluation of activities

Overall evaluation of the activity	**0 (insufficient)**	**25 (mostly insufficient)**	**50 (sufficient)**	**75 (very good)**	**100 (excellent)**

The teacher's choice of methods and activities	0	0	1 (3%)	12 (38%)	17 (53%)
The teacher's focus on speaking	0	6 (19%)	1 (3%)	14 (44%)	10 (31%)
The teacher's focus on medical terminology	0	0	0	3 (9%)	27 (84%)

The extended area of the questionnaire had 12 control participants. They expressed a positive attitude towards the activating teaching methods, with a 75% positive response rate; 25%, however, did not find them beneficial. The potential these methods have for generating student interest was clear; the response rate was 100%. 83% of respondents thought the activities helped with professional vocabulary acquisition, 17% did not. The potential for promoting speaking was marked by 92%; 8% had a different opinion. 58% of respondents found the activities increased their motivation; 33% of respondents did not agree. Finally, the potential of activating teaching methods to create a friendly classroom climate was expressed by 92% of respondents, with 8% expressing a converse opinion.

Table 51: Frequency of B2 control group answers concerning activating teaching methods

Question	**NO**	**PROBABLY NOT**	**PROBABLY YES**	**YES**	**I DON'T KNOW**
Activating teaching methods were beneficial	1 (8%)	2 (17%)	4 (33%)	5 (42%)	0
Activating teaching methods made the lesson interesting	0	0	4 (33%)	8 (67%)	0
Activating teaching methods helped to acquire medical terminology	0	2 (17%)	3 (25%)	7 (58%)	0
Activating teaching methods practiced speaking	0	1 (8%)	5 (42%)	6 (50%)	0
Increased motivation for further work	3 (25%)	1 (8%)	1 (8%)	6 (50%)	1 (8%)
Activating teaching methods built friendly atmosphere	1 (8%)	0	2 (17%)	9 (75%)	0

In the open questions, students often mentioned the activating teaching methods in a positive light. 41% of respondents rated these activities positively, particularly specific games such as *Risk* (16%) and *Explain* (13%). Other examples of positive feedback were: listening comprehension exercises (9%), role-plays (6%), and mock tests practicing the

acquisition of target vocabulary (6%). Aspects negatively perceived were: excessive usage of activating teaching methods, namely *Risk* (3%), inefficacy of pair work activities (6%), and presentations (3%). Suggestions for course improvement included listening; however, students had a converse opinion in terms of intensity, with 6% suggesting more listening comprehension exercises, while the same number (6%) would have preferred less. Other suggestions included: less games, more subject-specific classroom content, and enforced mandatory attendance.

B2 experimental and control groups comparison

In summary, both B2 groups viewed activating teaching methods very positively. The positive response rate for the overall satisfaction given by the experimental group was 94%, 75% in the control group. The activating teaching methods allowed the students to develop professional vocabulary and language skill speaking. Concerning medical terminology, both groups deemed the activities beneficial, with the experimental group giving an 88% positive response rate, the control group 83%. As for speaking, both groups evaluated the activities very highly, 94% in the experimental group, 92% in the control. As regards motivation, 87% of respondents from the experimental group thought activating teaching methods made the lesson interesting; in the control group the figure rose to 100%. The methods' potential for creating a friendly atmosphere was indicated by 100% of respondents in the experimental and 82% in the control group.

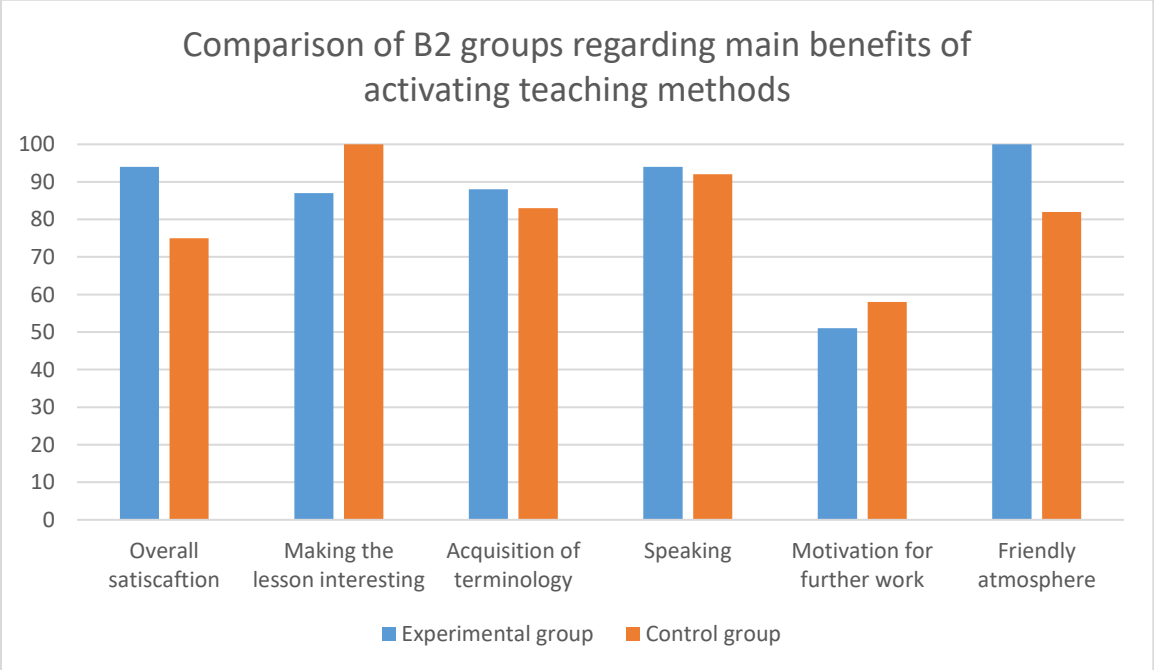


Figure 64: Comparison of B2 responses regarding main benefits of activating teaching methods

To sum up, the B1 results obtained from the evaluation questionnaires showed a very positive attitude towards the activating teaching methods in both the experimental and control group. A vast majority of B1 respondents found the implemented activities beneficial in all areas of concern, i.e. their potential to facilitate medical terminology acquisition, practice of speaking and increase of motivation, especially in terms of generating interest, and creating a friendly atmosphere. The data obtained support the hypothesis that there is a significant difference in the acquisition of target medical vocabulary when practiced by the activating teaching methods. Moreover, activating teaching methods positively influence student motivation.

The B2 experimental and control group respondents showed a positive attitude towards the activating teaching methods as well. They expressed the opinion that activating teaching methods can influence the acquisition of professional vocabulary. In addition, the methods can also influence student motivation and increase the amount of student speaking during the class. The data obtained are in accordance with the hypothesis: there is a significant difference in the acquisition of target medical vocabulary when practiced by activating teaching methods. Furthermore, activating teaching methods positively influence student motivation.

6. Conclusion

Activating teaching methods are used in language learning and teaching as an important tool to support active learning. However, their potential is underestimated. My personal experience is that activating teaching methods are suitable for young learners but less so for tertiary instruction, which perhaps explains why these methods have not been given the attention they deserve in the sphere of pedagogical research. This aspect, combined with the feedback received via student questionnaires, is what prompted my interest in this specific area of research.

The objective of the research was to identify the extent to which the implementation of activating teaching methods helps influence target vocabulary acquisition. Two sets of activating teaching methods were created, one for the experimental group (including vocabulary from the 80-item list), the other for the control groups (excluding any words

from the 80-item list). These activities were used for revising medical vocabulary (form, meaning, and generative use) from previous lessons or practising doctor-patient communication. The question of acquisition was determined through a series of progress tests and credit tests. By analysing the results, we were able to ascertain the statistically significant differences, if any, between the experimental and the control groups.

A secondary objective was to find out if the activating teaching methods positively influence student motivation, an idea already suggested in works by Hrabal – Man – Pavelková (1989), Kotrba – Lacina (2011), Mareš (2013), Petty (2008), or Sitná (2009). For this objective, questionnaires were used in which students assessed the influence activating teaching methods had on motivation, professional vocabulary acquisition, and the amount of student speaking.

In this chapter, I will conclude the main findings as well as emphasise research weaknesses and limitations.

6.1. Findings

The present study is based on the analysis of the data obtained from the student needs analysis questionnaire, a set of progress tests, credit tests, short-form evaluation questionnaires, and evaluation questionnaires. The starting point was the needs analysis, which revealed how willing students were to work on the acquisition of professional vocabulary and the extent to which they wanted to improve their language skills. This data also showed that students perceived pair work and group work to be the most effective means of attaining such goals. This thesis has demonstrated that activating teaching methods make use of these preferred forms of interaction.

The B1 interpretation of the results appears far from straightforward. Concerning the influence activating teaching methods have on professional vocabulary acquisition, analysing the progress and credit tests failed to reveal a significantly statistical difference between the experimental and control groups. This can imply that activating teaching methods used for target vocabulary acquisition *did not* facilitate such acquisition, which corresponds with the zero hypothesis that there is no statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods. However, in the short-form evaluation questionnaires where the activating

teaching methods were represented by the implemented activities, the vast majority of students in both the experimental and control groups perceived the methods very positively. Both groups believed the activities to be beneficial in terms of medical vocabulary acquisition, the promotion of speaking (increased student talking time), and increased student motivation. Such opinions were further supported by the evaluation questionnaire in which students evaluated the whole course, including activating teaching methods. Those methods obtained a very positive evaluation, with students indicating that there was a positive influence on medical vocabulary acquisition, on speaking, and student motivation (interest in activities and a positive classroom environment). Data obtained from the short-form questionnaires and evaluation questionnaires are in accordance with the hypothesis that there is a statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods and that such methods positively influence student motivation in language learning. However, the statistical analysis of progress tests and credit tests does not support this hypothesis. Possible reasons, though speculative, could be that less advanced students prepared themselves for classes on a week-to-week basis and managed to acquire the target vocabulary through self-study. Activating teaching methods therefore *did not* facilitate the professional vocabulary acquisition but rather consolidated the professional vocabulary knowledge, thus rendering the differences between the experimental and control groups difficult to elucidate.

At the B2 level, the experimental group achieved much better results in the medical vocabulary acquisition compared to the controls. Analysis of progress tests and credit tests supported the hypothesis that there is a statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods. It means that activating teaching methods *did* facilitate the acquisition of the medical terminology. In the short-form questionnaires, the implemented activities were also evaluated very positively. Both B2 groups were of the opinion that the implemented activities *did* help facilitate acquisition of medical vocabulary while also promoting speaking. Students also indicated a slight rise in interest levels. However, the number of activities marked as beneficial in terms of increasing student interest was lower compared to the B1 level. When re-measured in the evaluation questionnaire, the positive attitude

towards activating teaching methods was apparent. The vast majority of students appreciated activating teaching methods for their potential to facilitate medical terminology acquisition, to promote speaking, and to increase student motivation (in terms of interesting activities and creating a positive classroom environment). The findings are in accordance with the third hypothesis that there is a statistically significant difference in the improvement of professional vocabulary acquisition through activating teaching methods and that these methods positively influence student motivation in language learning. At the B2 level, all research techniques managed to support the identical hypothesis.

6.2. Limitations

Perhaps the greatest issues surrounding this research are the impossible randomization of the research sample, the fluctuating attendance, and discrepancies in credit tests.

As to randomization, which in general provides better control of variables affecting validity (Chrástka 2016, Gavora 2010, Pelikán 2007), we were limited by the fact that the groups were assigned to A2-C1+ levels based on the placement test. Students classified as B1 and B2 levels (independent users) were selected as research subjects in order to obtain an adequately homogenous sample for the research being conducted. Therefore, we could not randomize the assignment of subjects into groups. However, a certain level of randomization was ensured by randomly designating groups as either experimental or control.

Another problem was the attendance. The required attendance was stipulated at 65% as students who do not attend class regularly might bias the results. Low attendance caused a high mortality in the research sample; the research sample of approximately 200 subjects dropped to 154 participants. Also, fluctuating attendance meant that the research subjects did not manage to complete all the progress tests, resulting in missing data. Finally, the number of respondents in the short-form questionnaires varied between 2-27 at the B1 level and 2-22 for B2, meaning the whole population of the 3rd year medical students was not adequately represented. The data obtained from the short-form evaluation questionnaires were not reliable and were re-measured in the final evaluation questionnaires.

Concerning credit tests, a certain degree of imbalance can be seen in some credit test versions. Listening comprehension did not appear in all the versions because it was difficult to implement such exercises in the prior existing credit tests. Another problem might be the purpose of the test itself. Students generally prepare for credit tests well in order to avoid failure and consequent retakes. This might bias the results. It would be difficult to know if the acquisition of professional vocabulary was facilitated by student efforts at self-study or by the activating teaching methods themselves.

6.3. Pedagogical implications

Though the research has not managed to show a clear influence of activating teaching methods on professional vocabulary acquisition at the B1 level, the present study has revealed that activating teaching methods have the potential to enhance professional vocabulary acquisition and positively influence motivation.

Regarding professional vocabulary, the acquisition of professional word stock is integral to every ESP course. In ESP courses, it is essential to provide students with an adequate amount of professional vocabulary items; however, merely providing such vocabulary is not enough unless students are given an opportunity to practice and automatize the given lexical items. Vocabulary items need to be learnt not as individual words but through their use in chunks and phrases (Gráf 2015: 43). These chunks and phrases then must be automatized through repetition, which can be done in a number of ways: by recycling exercises and texts, by taking dictations of older texts, and through regular testing (Gráf 2015: 42-50). Nevertheless, such classroom activities might also bring monotony, which can lead to boredom, inattention, low motivation and ultimately less learning (Ur 2012: 45). Dörnyei (2008: 288 qtd. in Gráf 2015: 46-47) argues that repetition involves drills, thus careful planning is necessary so that students do not become uninterested in the classroom activities designed to facilitate automaticity. He suggests communicative drills, drills in role-plays, games, songs, etc. If activating teaching methods are employed to this end, automaticity can be facilitated in a meaningful and enjoyable way.

We also found activating teaching methods have the potential to promote speaking skills. However, certain classroom activities (textbook exercises, dictations, regular testing) do not adequately encourage speaking, the most requested language skill by our medical

students. In order to develop this skill more efficiently, activating teaching methods should be recommended as they offer an endless resource of variable pair/group work activities in which students can use the target vocabulary through speaking (giving definitions, explaining, questioning, discussing, debating, expressing opinions, etc.).

Finally, activating teaching methods can positively influence student motivation. Those methods require students to participate actively, the result of which is increased interest and concentration, thus making the classroom experience more stimulating and enjoyable (Mareš 2013, Petty 2008). In the evaluation questionnaires, students appreciated the combination of interesting activities and practical usage of vocabulary. This combination resulted in a positive classroom environment in which students were motivated to learn and had no fear of making embarrassing mistakes.

The present thesis has also had direct pedagogical implications for the courses Medical English I and II at the Charles University – Faculty of Medicine in Hradec Králové.

The student needs analysis showed that 3rd year medical students learning English for Medical Purposes were willing to develop professional vocabulary and improve the language skill speaking. They perceived pair and group work to be the most effective means of achieving those goals. The research dealing with activating teaching methods was initiated due to these findings, which then gave rise to direct pedagogical implications for the course.

The first change concerned the core study material *Professional English in Use: Medicine* (Glendinning – Howard 2007). This textbook was originally chosen due to the limited time frame of the courses. However, though the book still represents a very decent material for a self-study, it has ceased to meet current requirements. Instead, the Department of Languages at the Faculty of Medicine in Hradec Králové has created 'tailor-made' materials in the form of handouts, which are available in Moodle and combine many resources. This provides students with an adequate amount of professional vocabulary and offers ample opportunity for pair work and group work activities as well as focusing on the language skills, speaking in particular.

Second change concerned the course design itself, particularly the implementation of activating teaching methods within the instruction. The implemented activities that were

specifically constructed for the research and consequently modified according to the student evaluation became an integral part of every session. Those activities were designed as warm-up activities and new material practise for particular medical topics. In this way, the medical word stock was enhanced. In addition, the activating teaching methods encouraged students to speak from the first minute they entered the classroom. This meant a pleasant change in the learning environment. Active learning through activating teaching methods helped students to enjoy the instruction and to realize that this particular English course could help them to gain useful knowledge applicable in their future careers as doctors.

The present research has had a certain implication for the final examination as well. Due to the shifting course emphasis (doctor-patient role-plays), the final has been restructured. Instead of the previous one-to-one scheme, the new version of the final requires students to work in pairs, each taking the other's medical history in the above-mentioned doctor-patient role-play format.

6.4. Research implications and further research

In today's technology-driven environment, activating teaching methods have not obtained much attention in the field of research. However, according to British educationalist Ken Robinson, "learning happens in the minds and souls, not in the databases of multiple-choice tests"(Shepherd 2009). Therefore, such research is very important and the field should be further explored.

The present study has been conducted at the B1 and B2 levels. The recommendation for further research should focus on the language levels A2. The A2 students studying English for Medical Purposes have to master a broad medical word stock. Being basic users, their knowledge of the language itself is quite limited. Therefore, they must make a great effort to acquire the necessary medical lexicon and develop all the language skills. In addition, basic users often consider the language skill speaking the most difficult. It would be essential to create a set of activities leading to effective practice of the medical vocabulary through speaking. The existing set of implemented activities for the B1/B2 levels could serve as an inspiration.

We concluded (based on the data obtained from the short-form questionnaires and evaluation questionnaires) that activating teaching methods have the potential to increase student talking time (STT), but the extent to which this takes place is not obvious. It would probably be helpful to quantify the increase in terms of a percentage figure.

With regards to speaking, i.e. communicating in doctor-patient situations, it would be interesting to see if activating teaching methods can develop communication skills in connection with ethics in medicine. Due to developments in science and technology, modern medicine is becoming dehumanized. In the past, the doctor-patient relationship was more personal. However, the current standards for medical professionals have brought about less doctor-patient communication and more 'silence' (Ptáček 2011: 27). Professional communication in medicine is an important soft skill and as such should be learnt in order to ensure human dignity in the context of medicine. Activating teaching methods (through role-plays) might serve this purpose.

Future studies might concentrate on the activating teaching method and their impact on the teacher. This study has approached activating teaching methods from the student viewpoint only. Can teachers benefit from activating teaching methods? If so, how? Factors such as lack of motivation need not be a student-only issue; teachers can also be affected (Mareš 2013: 283), resulting in a whole other set of classroom problems, e.g. teacher burnout. Activating teaching methods can have a positive influence on such teacher-related issues.

6.5. Closing statement

Language learning is a life-long process requiring much time and effort. It is the teacher's job to ensure that the learning is as effective as possible. Such effectiveness can be ensured by adequate language-focused content. In ESP classes, the professional word stock comprises the largest segment and can be acquired by rehearsing and repetitions. Activating teaching methods can be the perfect tool to provide students with effective practice on form, meaning, and use while at the same time rendering the time spent in the classroom both beneficial and fun. This thesis might serve as a starting point for ESP teachers to create their own stock of activities that could then be shared with colleagues, both those with experience as well as those new to teaching.

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